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Revision of family Chaerilidae (Scorpiones), with descriptions of three new species

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Revision of family Chaerilidae (Scorpiones), with descriptions of three new species

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Abstract. The monotypic family Chaerilidae Pocock, 1893 is revised, with diagnostic characters and geographic distribution given for all of its species. Lectotypes are designated for *Chaerilus anthracinus* Pocock, 1900, *C. cavernicola* Pocock, 1894, *C. gemmifer* Pocock, 1894, *C. rectimanus* Pocock, 1899, *C. truncatus* Karsch, 1879, and *C. variegatus nigricolor* Pocock, 1899. *C. gemmifer* Pocock, 1894 is synonymized with *C. pictus* (Pocock, 1890); *C. granosus* Pocock, 1900, *C. anthracinus* Pocock, 1900, *C. a. rufescens* Pocock, 1900, *C. granifrons* Kraepelin, 1913, and *C. hirsti* Kraepelin, 1913 are synonymized with *C. truncatus* Karsch, 1879; and *C. variegatus nigricolor* Pocock, 1899 is synonymized with *C. variegatus* Simon, 1877. *Chaerilus petrzekai* sp. n., *C. tichyi* sp. n., and *C. tryznai* sp. n. are described and a key to the family Chaerilidae is provided. First records are established for *C. cavernicola* Pocock, 1894 in Malaysia and Thailand, and *C. chapmani* Vachon & Lourenço, 1985 in the Philippines.

Key Words: Taxonomy, description, revision, new species, new combination, checklist of species, key to species, Scorpiones, Chaerilidae, Oriental region.

Introduction

The monotypic family Chaerilidae includes 18 species inhabiting the Oriental region (Table 2). This family is well characterized in Sissom (1990: 70, 82, and 114–116). Type specimens are in a number of institutions, most of which kindly provided them as well as unidentified material. This has allowed me to include all of FKCP, MZUF, NHMB, NMPC, SMFD, and ZMUH Chaerilidae. Unfortunately, I have not been able to examine either the type or any other specimen of *Chaerilus assamensis* Kraepelin, 1913.

Material and methods

The institutional abbreviations listed below and used throughout are mostly after Arnett, Samuelson & Nishida (1993); only FKCP is my own.

BMNH:	British Museum (Natural History), London, England
FKCP:	František Kovařík Collection, Praha, Czech Republic
MCSN:	Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy
MNHN:	Muséum National d'Histoire Naturelle, Paris, France
MZUF:	Museo Zoologico de "La Specola", Firenze, Italy
NHMB:	Naturhistorisches Museum, Basel, Switzerland
NMPC:	National Museum (Natural History), Praha, Czech Republic
NZSI:	National Zoological Survey of India, Calcutta, India
SMFD:	Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main, Germany
SOFM:	National Natural History Museum, Sofia, Bulgaria
ZMHB:	Museum für Naturkunde der Humboldt-Universität zu Berlin, Germany
ZMUH:	Zoologisches Institut und Zoologisches Museum, Universität Hamburg, Germany

Other abbreviations are as follows:

♂:	male	♀:	female
im.:	immature	juv.:	juvenile
A:	specimens preserved in alcohol	E:	specimens mounted dry
ht:	holotype	at:	allotype
pt:	paratype	lt:	lectotype
plt:	paralectotype	TL:	type locality

Type localities are given exactly as in the original descriptions and abbreviations are supplemented by details from labels or by current political units/divisions.

Under material, the country is followed by all information given on the locality label. Unfortunately, some locality labels are difficult to read, which may have caused a few inaccuracies in their transcription. Certain label data have proven altogether undecipherable.

This study was conducted in 1997–2000. Each examined specimen (except for some already well labeled holotypes and paratypes) bears a label in Arial or Times New Roman font produced on a laser printer. Basic data are also penciled on the reverse of the label, as permanency of laser print in alcohol cannot be trusted. The labels contain the generic and species names; author and year of the original description; whether the specimen is the holotype, lectotype or paralectotype; whether I have designated (dsg.), determined (det.), or only revised (rev.) the specimen; and my name plus the year of the examination.

Checklist of family Chaerilidae Pocock, 1893

Chaerilus Simon, 1877

= *Chelomachus* Thorell, 1889

= *Uromachus* Pocock, 1890

Chaerilus agilis Pocock, 1899

Chaerilus assamensis Kraepelin, 1913

Chaerilus cavernicola Pocock, 1894

Chaerilus celebensis Pocock, 1894

Chaerilus ceylonensis Pocock, 1894

Chaerilus chapmani Vachon & Lourenço, 1985

Chaerilus insignis Pocock, 1894

Chaerilus laevimanus Pocock, 1899

***Chaerilus petrzekai* sp. n.**

Chaerilus pictus (Pocock, 1890)

= *Chaerilus gemmifer* Pocock, 1894 **Syn. n.**

Chaerilus rectimanus Pocock, 1899

Chaerilus robinsoni Hirst, 1911

Chaerilus sabinae Lourenço, 1995

***Chaerilus tichyi* sp. n.**

Chaerilus tricostatus Pocock, 1899

Chaerilus truncatus Karsch, 1879

= *Chaerilus margaritatus* Pocock, 1894

= *Chaerilus granosus* Pocock, 1900 **Syn. n.**

= *Chaerilus anthracinus* Pocock, 1900 **Syn. n.**

= *Chaerilus anthracinus rufescens* Pocock, 1900 **Syn. n.**

= ? *Chaerilus granifrons* Kraepelin, 1913 **Syn. n.**

= *Chaerilus hirsti* Kraepelin, 1913 **Syn. n.**

Chaerilus tryznai* sp. n.**Chaerilus variegatus* Simon, 1877**= *Chaerilus variegatus nigricolor* Pocock, 1899 **Syn. n.**= ? *Chaerilus borneensis* Simon, 1880= ? *Chelomachus birmanicus* Thorell, 1889***Chaerilus agilis* Pocock, 1899**

(Figs. 9–10, 34, Tables 1–2)

Chaerilus agilis Pocock, 1899b: 416; Kraepelin, 1913: 142; Bristowe, 1952: 697; Lourenço & Francke, 1985: 3; Lourenço, 1994: 181; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Caves, Selangor in Malacca; BMNH.

TYPE MATERIAL EXAMINED. **Malaysia**, Kuala Lumpur caves, Selangor, F. M. S., 1♀A (holotype), leg. H. N. Ridley, BMNH No. 1898.2.10.1, rev. M. Vachon 1979 (VA 2467).

DIAGNOSTIC CHARACTERS. Total length 47 - 58.6 mm. Male has a slightly longer and narrower manus of pedipalps (Bristowe, 1952: 697). Movable finger of pedipalps with eight cutting edges composed of granules (Fig. 9). Fingers are entirely straight even in the male (fig. 1 in Bristowe, 1952: 698). For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Fig. 10. Trichobothrium d2 of pedipalp is on dorsal surface (Fig. 34). Tibia of pedipalp with eight keels, patella with six keels, femur with five keels. Pectinal teeth number 4 (holotype female) and 6 (a male, see Bristowe, 1952: 698).

First metasomal segment with 10 keels, second through fourth segments with eight keels (two additional lateral keels are developed only in posterior halves of segments). Fifth metasomal segment with seven keels, of which one ventral keel posteriorly branches to form the letter “Y”. All keels are composed of sparse, denticulate, posteriorly inclined granules.

Carapace sparsely covered by granules of unequal size, which are absent only between anterior margin and median eyes. Larger granules of carapace form two longitudinal, symmetrical keels. Mesosoma is granulated but lacks keels. Ventral side of mesosomal segments is smooth, without keels.

COMMENT. The species is based on the examined female; another specimen (a male) was found in 1930 (Bristowe, 1952: 697).

DISTRIBUTION. Malaysia (Pocock, 1899b: 417).

***Chaerilus assamensis* Kraepelin, 1913**
(Table 2)

Chaerilus assamensis Kraepelin, 1913: 144; Takashima, 1945: 101; Minnocci, 1974: 31; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Assam, India; NZSI.

COMMENTS. *Chaerilus assamensis* was based on an unspecified number of specimens of both sexes (Kraepelin, 1913: 145), which I unfortunately could not examine. There is no published record of other specimens, all later papers (Takashima, 1945: 101; Minnocci, 1974: 31; Kovařík, 1998: 129) include the species only in a list or a catalogue manner.

However, *Chaerilus assamensis* is very well characterized by the presence of seven to eight granulated cutting edges on the movable finger of pedipalp (Kraepelin, 1913: 141). Of the species known to occur in India and China (Tibet), this number of cutting edges is present only in *Chaerilus tryznai* sp. n., which has the anterior margin of carapace straight in both sexes. The male of *C. assamensis* has the anterior margin of carapace arched (see the key below and Kraepelin, 1913: 141).

DISTRIBUTION. India (Kraepelin, 1913: 145).

***Chaerilus cavernicola* Pocock, 1894**
(Figs. 11, 35, Tables 1–2)

Chaerilus cavernicola Pocock, 1894b: 91; Kraepelin, 1899: 160; Kraepelin, 1913: 153; Kopstein, 1921: 143; Kopstein, 1923: 186; Giltay, 1931: 18; Takashima, 1945: 100; Lourenço & Francke, 1985: 3; Lourenço, 1994: 181; Kovařík, 1998: 129.

? *Chaerilus truncatus* (in part): Kraepelin, 1894: 146.

Chaerilus truncatus: Fage, 1936: 181; Fage, 1944: 71.

TYPE LOCALITY & DEPOSITORY. Caves Ngalau near Pajacombo in Sumatra; BMNH.

TYPE MATERIAL EXAMINED. **Indonesia**, Ngalau caves, nr. Pajacombo, Sumatra, 1♀ (im.)A (lectotype), leg. Max Weber, BMNH No. 1896.10.6.4., rev. M. Vachon 1979-1980 (No. 2489).

OTHER MATERIAL EXAMINED. **Indonesia**, Nias, 1♂(im.)E, FKCP. **Malaysia**, Pahang/Johor, Endau-Rompin n. Park, 100 m, Salendang, 1♂E, 28.II.-12.III.1995, leg. M. Štrba & R. Hergovits, FKCP. **Thailand**, 20 km E of Trang, XI.1998, 1♀A, leg. Kozmík, FKCP.

DIAGNOSTIC CHARACTERS. Total length 27.6 - 42.1 mm. For habitus see Pocock, 1894b: 99, pl. 6, fig. 5. Movable finger of pedipalps with 12 - 14 cutting edges composed of granules. Fingers straight in both sexes. For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Fig. 11. Trichobothrium d2 of pedipalp is on dorsal surface (Fig. 35). Tibia of pedipalp with eight keels, patella with four keels, femur with four or five keels. Pectinal teeth number 4 (female) and 6-7 (male).

Keels of metasomal segments are often indicated by merely a few granules in juvenile specimens (lectotype), but are well developed in adult individuals. However, ventral keels of the first metasomal segments are either smooth or absent even in adults. Moreover, the ventral side of the first metasomal segment is entirely devoid of granules. In contrast, the fifth metasomal segment has a well developed ventral keel that posteriorly branches to form the letter "Y". Lateral keels of the second and third metasomal segments are indicated only by short rows of granules.

Carapace of juveniles (lectotype) is nearly smooth, with only a small number of granules scattered over the entire surface. In contrast, the carapace of adult male is covered by large granules. Mesosoma is without keels and its ventral side is smooth.

COMMENT. The species is based on three specimens, of which I have examined an immature female hereby designated as the lectotype. Pocock supposed that this specimen was an adult.

DISTRIBUTION. Indonesia (Pocock, 1894b: 91). Malaysia (first record), Thailand (first record).

***Chaerilus celebensis* Pocock, 1894**
(Figs. 12–13, 36, Tables 1–2)

Chaerilus celebensis Pocock, 1894b: 93; ? Kraepelin, 1894: 147; ? Kraepelin, 1899: 158; Borelli, 1904: 4; Kraepelin, 1913: 145; Kopstein, 1921: 142; Kopstein, 1923: 186; Banks, 1928: 505; Giltay, 1931: 18; Werner, 1934: 288; Pelt, 1936: 403; Fage, 1944: 72; Takashima, 1945: 99; Vachon & Lourenço, 1985: 9; Sissom, 1990: 115; Kovařík, 1994: 198; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Luwu in Celebes (Sulawesi); BMNH.

TYPE MATERIAL EXAMINED. **Indonesia**, Luwu, Celebes (Sulawesi), 1♀A (holotype), leg. Max Weber, BMNH No. 1896.10.6.5.

OTHER MATERIAL EXAMINED. **Indonesia**, Celebes (Sulawesi), Sadara-Spitze, 4.III.1897, 1♀A, leg. Sarasin, ZMUH No. 1704; Celebes, Luvara, 1♀A, leg. Sarasin, NHMB; Borneo, Pooloo Miang, 2.XII.1902, 1♀A, leg. T. Lorenz, ZMUH No. 1706. **Malaysia**, Sabah, Borneo, W., Crocker Range E., W. of Apin Apin, V.1999, 1♂E, leg. M. Snížek, FKCP. **Philippines**, Luzon, 2♀1juv.A, ZMUH.

DIAGNOSTIC CHARACTERS. Total length 19.5 – 28 mm. For habitus see Sissom, 1990: 115, fig. 3.20. Movable finger of pedipalp with seven or eight cutting edges composed of granules. Fingers are straight in both sexes. For dorsal view of tibia and patella of pedipalp with position and distribution of trichobothria see Figs. 12–13, 36. Trichobothrium d2 of pedipalp is on dorsal surface, but may be situated also directly on the edge (Fig. 36). Tibia of pedipalp with seven or eight keels, patella with five keels, femur with four keels. Pectinal teeth number 3-4. Male has relatively larger pectens and telson, and differs from the female also in the shape of manus of pedipalp (Figs. 12–13).

Keels of metasomal segments may be inconspicuous, indicated only by a few granules. The first metasomal segments lack ventral keels, and the ventral side of the first metasomal segment is smooth, devoid of granules. Dorsolateral keels and keels on the third and fourth metasomal segments only are well developed. They consist of sparse, denticulate, posteriorly inclined granules. The fifth metasomal segment has better discernible keels, of which one ventral keel posteriorly branches to form the letter “Y”.

The entire carapace is sparsely covered by large granules, the larger of which form two longitudinal, symmetrical keels. However, one ZMUH female has the carapace smooth. The mesosoma may be granulated or smooth and is devoid of keels. The ventral side of mesosomal segments is smooth, without keels.

COMMENT. The species is based on a female, which Pocock regarded as probably immature.

DISTRIBUTION. Indonesia (Pocock, 1894b: 93), Malaysia (Borelli, 1904: 4; Banks, 1928: 505), Philippines (Luzon) (Kraepelin, 1894: 148).

***Chaerilus ceylonensis* Pocock, 1894**
(Fig. 14, Tables 1–2)

Chaerilus ceylonensis Pocock, 1894a: 83; Kraepelin, 1899: 159; Pocock, 1900: 62; Takashima, 1945: 100; Vachon, 1982: 102; Tikader & Bastawade, 1983: 326; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Trincomalee, Ceylon; BMNH.

TYPE MATERIAL EXAMINED. **Sri Lanka**, Ceylon, Trincomalee, 1♂A (holotype), X.1893, leg. Major Barrett, BMNH No. 1893.10.20.4.

DIAGNOSTIC CHARACTERS. Total length about 44 mm. For habitus see Vachon, 1982: 111, Figs. 94-95. Movable finger of pedipalp with 11-12 cutting edges composed of granules. Fingers are straight and very short (Fig. 14). For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Fig. 14. Trichobothrium d2 of pedipalp patella is on dorsal surface, and trichobothrium d3 is on internal surface. Tibia of pedipalp with nine keels. Pectinal teeth number 4-6.

The entire carapace is evenly covered by granules. The distance ratio of median eyes from anterior and posterior margins of carapace is 1: 1.57. Mesosoma is sparsely covered by granules and lacks keels. The ventral side of mesosomal segments is smooth.

The first and second metasomal segments bear 10 keels, the third and fourth segments bear eight keels, and the fifth segment bears seven keels of which one ventral keel posteriorly branches to form the letter “Y”. All keels consist of large, denticulate granules.

COMMENT. The species is based on one male, which I have examined.

DISTRIBUTION. Sri Lanka (Pocock, 1894a: 84).

Chaerilus chapmani Vachon & Lourenço, 1985
(Figs. 15, 37, Tables 1–2)

Chaerilus chapmani Vachon & Lourenço, 1985: 10; Lourenço & Francke, 1985: 5; Kovařík, 1994: 198; Locket, 1995: 191; Lourenço, 1995: 847; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Gunong Mulu National Park, Sarawak, Kalimantan; MNHN.

MATERIAL EXAMINED. **Philippines**, Palawan Island, St. Paul National Park, 1♀E 1♀4juv.A, II.1997, FKCP. All specimens were found under rocks in a cave.

DIAGNOSTIC CHARACTERS. Total length 30.9 – 39.2 mm. Movable finger of pedipalps with seven cutting edges composed of granules. Fingers are straight in both sexes and bear six granular cutting edges. For dorsal view of tibia and patella of pedipalp with position and distribution of trichobothria see Figs. 15, 37. Trichobothria d2 and d3 are on the internal surface (Fig. 37). Tibia of

pedipalp with eight keels of which only five are clearly discernible. Pectinal teeth number 3 - 4. For habitus and view of tibia, patella, and femur of pedipalp with position and distribution of trichobothria see Vachon & Lourenço, 1985: 10 - 17, Figs. 1 - 16.

The carapace bears sparse granules of unequal size and longitudinal, symmetrical keels covered by large granules.

The mesosoma is sparsely covered by minute granules and lacks keels. The ventral side of mesosomal segments is smooth, without keels.

The keels of metasomal segments are well discernible and granulated, only the ventral keels tend to be poorly developed and may be absent.

COMMENTS. *Chaerilus chapmani* was based on five specimens of both sexes (Vachon & Lourenço, 1985: 10), which I have not been able to examine because the paratype, allegedly at BMNH could not be found. Apart from the specimens in FKCP collection, there is no record of material other than the type series.

The species apparently is to some extent troglobitic, a facultative troglobite with median eyes but the lateral eyes variously reduced. The specimens available to me from Palawan Island have two pairs of lateral eyes.

DISTRIBUTION. Philippines (first record), Malaysia (Sarawak) (Vachon & Lourenço, 1985: 10).

***Chaerilus insignis* Pocock, 1894**
(Figs. 16–17, Tables 1–2)

Chaerilus insignis Pocock, 1894a: 82; Pocock, 1900: 58; Kraepelin, 1913: 149; Takashima, 1945: 101; Mani, 1959: 12; Minnocci, 1974: 31; Tikader & Bastawade, 1983: 340; Kovařík, 1998: 129.

Chaerilus truncatus (in part): Kraepelin, 1899: 160.

TYPE LOCALITY & DEPOSITORY. Ladak (Cashmere); BMNH.

TYPE MATERIAL EXAMINED. **India**, Ladakh, Cashmere, 1♂A (holotype), leg. F. Moore, BMNH No. 1893.10.29.15, rev. M. Vachon in 1972.

OTHER MATERIAL EXAMINED. **India**, 1juv.A, Mus. Calcutta, VII.1913, ZMUH; Kashmir, Dachigam, 3200 m, 19.VI.1980, 1♀A, leg. F. Bernini, MZUF; Himachal Pradesh, Bassa Valie del Parvati, 1400 m, 30.VI.1980, 1♂(?)A, leg. F. Bernini, MZUF; Kashmir, Kistwar, 2♀E, 24.VII.1992, FKCP.

DIAGNOSTIC CHARACTERS. Total length up to 66 mm. Movable finger of pedipalp with 10 - 12 cutting edges composed of granules. Fingers are straight

in both sexes, but the male has a relatively longer and narrower tibia of pedipalp and larger pectens. For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Figs. 16–17. Trichobothrium d2 of pedipalp patella is on the edge between dorsal and internal surfaces. Trichobothrium d3 is on the internal surface (Fig. 36). Tibia of pedipalp with seven or eight keels. Pectinal teeth number 5 - 7.

The male carapace is nearly smooth, with only sparse and very small granules. It bears two longitudinal, symmetrical keels which are smooth, without granules. The female carapace bears a larger number of granules. The distance ratio of median eyes from anterior and posterior margins of carapace is 1: 1.53 to 1: 1.6.

The mesosoma has two keels which are not entire, but in posterior portions of the third through sixth mesosomal segments of males are well discernible. In females they are less clearly discernible or only vaguely indicated on the posterior margins of the segments. The mesosoma is sparsely granulated and its ventral side is smooth, without keels.

Keels of metasomal segments are well developed and granulated. Only ventral keels on the first segments are less conspicuous, but on the more posterior segments they are quite well developed. The first metasomal segment has 10 keels, the second through fourth segments have eight keels, and the fifth segment has seven keels of which one ventral keel posteriorly branches to form the letter “Y”.

COMMENT. The species is based on a male, which was originally stored dry (Pocock, 1894a: 82). It is currently preserved in alcohol and its condition is rather poor.

DISTRIBUTION. India (Pocock, 1894a: 83).

***Chaerilus laevimanus* Pocock, 1899**
(Figs. 18–19, Tables 1–2)

Chaerilus laevimanus Pocock, 1899b: 417; Kraepelin, 1913: 145; Kopstein, 1921: 141; Kopstein, 1923: 186; Giltay, 1931: 18; Takashima, 1945: 101; Kovařík, 1994: 198; Kovařík, 1998: 129.

? *Chaerilus celebensis*: Kraepelin, 1894: 147; Kraepelin, 1899: 158.

TYPE LOCALITY & DEPOSITORY. Pulo Gaya, British North Borneo; BMNH.

TYPE MATERIAL EXAMINED. **Malaysia**, Pulo Gaya, British North Borneo, 1♀A (holotype), leg. S. S. Flower, BMNH No. 1897.12.22.6.

OTHER MATERIAL EXAMINED. **Indonesia**, Billiton Island, X.1911, 1♂1♀A, ZMUH. **Malaysia**, N. Borneo, Banguay, 20.VII.1894, 1♂A, leg. W. Kedenburg, ZMUH No. 1707; Kalimantan, Kota Kinabalu, Sapulut, 6.-10.II.1999, 1♂1juv.E, leg. Mráček, FKCP.

DIAGNOSTIC CHARACTERS. Total length 42 - 52.3 mm. Movable finger of pedipalp with eight cutting edges composed of granules, but the last two edges are sometimes difficult to discern. Fingers are straight in both sexes. For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Figs. 18–19. Trichobothrium d2 of pedipalp patella is absent on the dorsal surface but present as an internal trichobothrium, or is situated on the edge between dorsal and internal surfaces. Tibia of pedipalp with seven or eight keels. The internal keel of tibia is incomplete. Patella of pedipalp with four or six keels, femur with five incomplete, smooth keels. Pectinal teeth number 4-7.

Keels of metasomal segments are well developed and granulated, only ventral keels on the first segments are smooth or may be absent. However, on the more posterior segments even the ventral keels are well discernible. The first metasomal segment has eight or 10 keels, the second through fourth segments have eight keels, and the fifth segment has seven keels of which one ventral keel posteriorly branches to form the letter “Y”. All keels are composed of widely spaced, large and pointed granules, between which are many minute granules.

The carapace is sparsely covered by granules of unequal size, with the larger granules forming two longitudinal, symmetrical keels. The mesosoma is covered by larger granules but lacks keels. The ventral side of mesosomal segments is smooth, without keels.

DISTRIBUTION. Indonesia (Kraepelin, 1913: 145), Malaysia (Pocock, 1899b: 417).

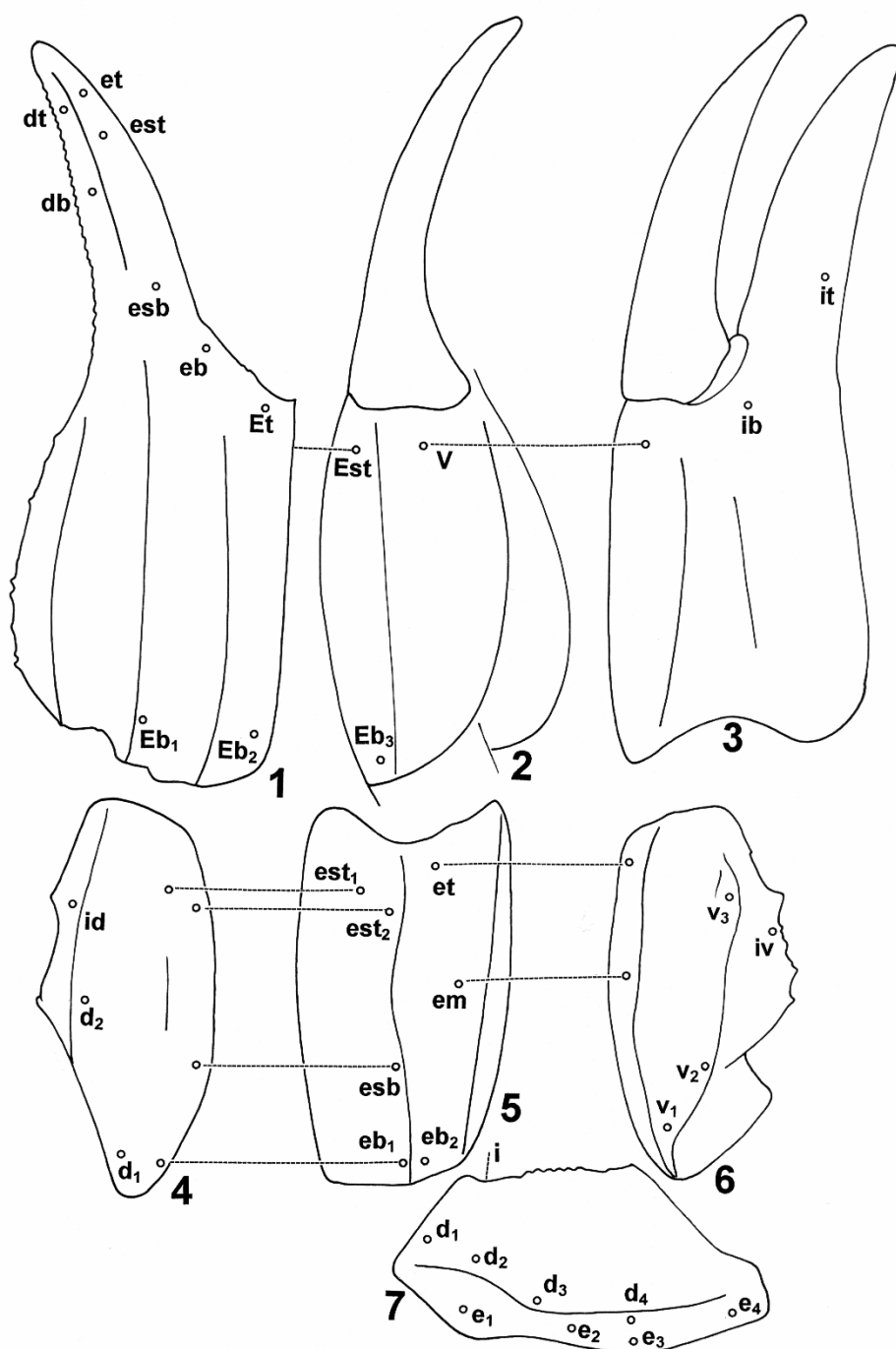
***Chaerilus petrzekai* sp. n.**
(Figs. 8, 20, 38, Tables 1–2)

? *Chaerilus celebensis* Fage, 1933: 29; Fage, 1936: 181; Fage, 1944: 72.

Chaerilus celebensis: Kovařík, 1998: 70, 79.

? *Chaerilus rectimanus*: Fage, 1933: 27; Fage, 1936: 181.

TYPE LOCALITY & DEPOSITORY. **Vietnam**, 80 km NNE Saigon, prov. Dong Nai, valley Ma Da, Tri An dam; FKCP.



Figs. 1–7. *Chaerilus truncatus* Karsch, 1879, FKCP ♀. In Figs. 1–3 the first capital letters denote trichobothria situated on the manus, and the first lower-case letters denote those situated on the fixed finger of pedipalp. Figs. 4–6 show the distribution of trichobothria on the patella of pedipalp. Fig. 7 show the distribution of trichobothria on the femur of pedipalp. Explanations: First letters: D, dorsal, E, external, I, internal, V, ventral. Second or second plus third letters: b, basal, sb, suprabasal, m, medial, st, subterminal, t, terminal, v, ventral. Numerals distinguish individual trichobothria of the same classification. Designation and description of trichobothria according to Vachon (1974). Morphological terminology according to Stahnke (1970).

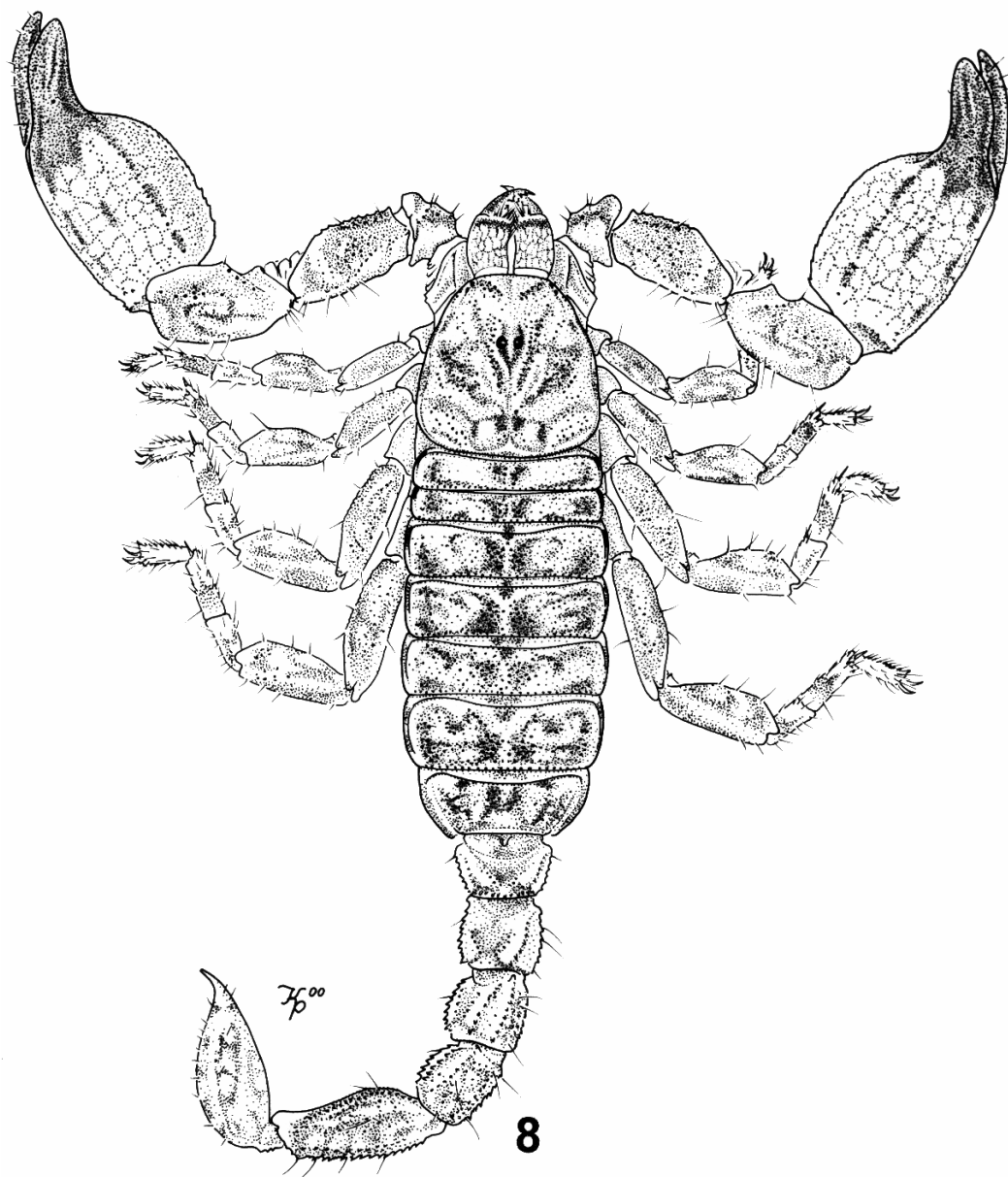


Fig. 8. *Chaerilus petrzekai* sp. n., ♀ holotype, dorsal aspect.

TYPE MATERIAL EXAMINED. **Vietnam**, 80 km NNE Saigon, prov Dong Nai, valley Ma Da, Tri An dam, 1♀ (holotype) 1juv. after 3rd ecdysis (paratype No. 2)A, IV.1995 (2nd ecdysis 29.VII.1995, 3rd ecdysis 16.IX.1995, reared by F. Kovařík), 1♀ (paratype No. 1)A, 23.IX.1995, leg. K. Petrňelka, FKCP.

ETYMOLOGY. Named after Karel Petrňelka of Prague, who spent several years in Vietnam and collected the type specimens.

DIAGNOSTIC CHARACTERS. Total length 20 - 22 mm. Habitus is shown in Fig. 8. Colour photos of the still-alive holotype female are in Kovařík (1998: 70).

Movable finger of pedipalp with eight cutting edges composed of granules, fingers entirely straight. For dorsal view of tibia and patella of pedipalp with position and distribution of trichobothria see Figs. 20, 38. Trichobothrium d2 of pedipalp is on dorsal surface (Fig. 38). Tibia of pedipalp with seven or eight keels which may be smooth, patella and femur with keels always smooth. Minute granules on the dorsal surface of tibia form a reticulate pattern, whereas the patella and even more so the femur are covered by larger, unevenly distributed granules. Pectinal teeth number 4.

The ventral and lateral surfaces of all metasomal segments are covered by large, tuberculate granules that depending on the angle of view may look like parts of keels, but can be readily distinguished from the well developed dorso- and ventrolateral keels. The ventral side of the fourth and fifth segments bears two well developed medial keels. The dorsal side of all segments is smooth and granules are confined to two symmetrical medial keels.

The entire carapace is sparsely covered by large granules, which do not form keels. Also the mesosoma is granulated but without keels. The ventral side of mesosomal segments is smooth, without keels, only the seventh segment is granulated. Paratype No. 2, a juvenile 11.5 mm long, has the pedipalps, carapace, and mesosomal segments smooth, without keels or granules.

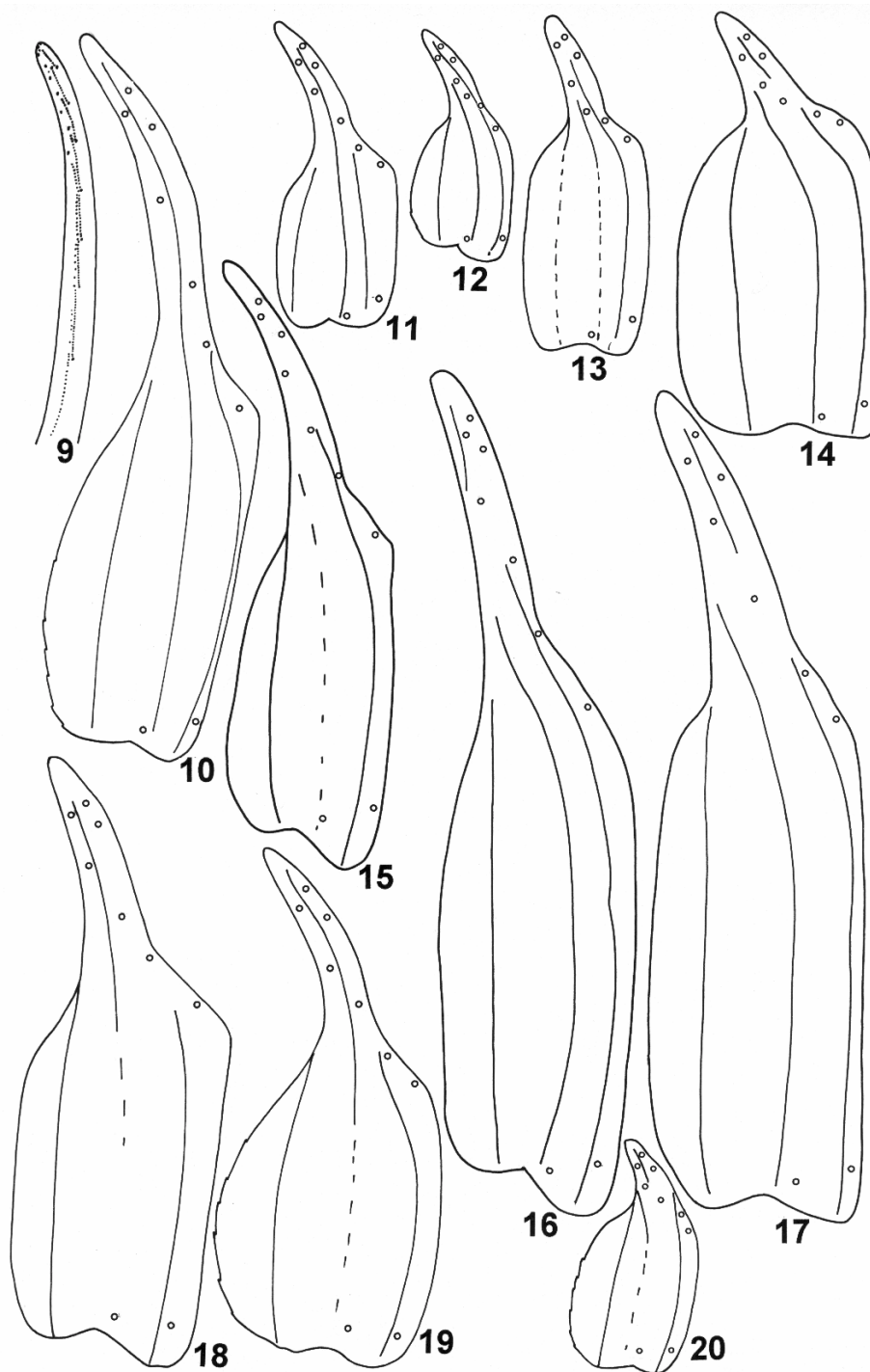
Colouration of adults is uniformly marked. The base colour is yellowish brown (mesosoma) to reddish brown (pedipalps), with black spots. Also the metasoma, telson, and legs are so coloured.

Chelicerae are granulated, reticulated, and the proximal ends of the fingers are predominantly black. The fingers of pedipalps are black.

COMMENT. The holotype female was brought live from Vietnam and gave birth to very small seven youngs, one of which (paratype No. 2) I was able to keep alive until the third ecdysis.

AFFINITIES. The described features distinguish *C. petrzekai* sp. n. from another species of the genus *Chaerilus*. They are recounted in the key below.

C. petrzekai sp. n. is closest to *C. celebensis*, with which it was apparently confused (Fage, 1933, 1936, and 1944). The two species are of the same size, but *C. petrzekai* sp. n. differs in the number of granules on metasomal segments, including the ventral side of the first metasomal segment which in *C. celebensis* is entirely smooth. Also the shape of the tibia of pedipalp is different (Figs. 20 and 12).



Figs. 9–20. Fig. 9. Movable finger of pedipalp. Figs. 10–20. Tibia of pedipalp, dorsal view. Figs. 9–10. *Chaerilus agilis* Pocock, ♀ holotype. Fig. 11. *C. cavernicola* Pocock, ♀ lectotype. Figs. 12–13. *C. celebensis* Pocock. Fig. 12. ♀ lectotype. Fig. 13. ♂, FKCP. Fig. 14. *C. ceylonensis* Pocock, ♂ holotype. Fig. 15. *C. chapmani* Vachon & Lourenço, ♀, FKCP. Figs. 16–17. *C. insignis* Pocock. Fig. 16. ♂ holotype. Fig. 17. ♀, FKCP. Figs. 18–19. *C. laevimanus* Pocock. Fig. 18. ♂, FKCP. Fig. 19. ♀ holotype. Fig. 20. *C. petrzekai* sp. n., ♀ holotype.

***Chaerilus pictus* (Pocock, 1890)**
(Figs. 21–22, 39, 42–43, Tables 1–2)

Uromachus pictus Pocock, 1890: 250.

Chaerilus pictus: Kraepelin, 1894: 143; Kraepelin, 1899: 159; Pocock, 1900: 61; Kraepelin, 1913: 151; Takashima, 1945: 100; Minnocci, 1974: 31; Tikader & Bastawade, 1983: 332; Kovařík, 1998: 129.

Chaerilus gemmifer Pocock, 1894a: 81; Kraepelin, 1899: 159; Pocock, 1900: 60; Kraepelin, 1913: 151; Takashima, 1945: 100; Minnocci, 1974: 31; Tikader & Bastawade, 1983: 346; Kovařík, 1998: 129. **Syn. n.**

TYPE LOCALITY & DEPOSITORY. Silhet; BMNH.

TYPE MATERIAL EXAMINED. **Bangladesh**, Silhet, 2♀A (lectotype and paralectotype of *C. gemmifer*), BMNH No. 1897.12.22.6; Silhet 2♂1♀(im.)A (holotype and paratypes of *C. pictus*), BMNH.

OTHER MATERIAL EXAMINED. **India**, Assam, 5.VI.1899, 1♀A, Mus. Breslau, ZMUH No. 1725; X.1912, 2♀A, Mus. Calcutta, ZMUH No. 1724; Silcuri Cachar, X.1912, 2♀A, Mus. Calcutta, ZMUH.

DIAGNOSTIC CHARACTERS. Total length 38 - 65.7 mm. Movable finger of pedipalps with 13 - 14 cutting edges composed of granules. Fingers are straight in both sexes. For habitus see Pocock, 1890: pl. XI B, fig. 1. The male has relatively longer metasomal segments and an exceedingly long telson that is quite atypical for the genus (see Tab. 3, Figs. 42–43, and Pocock, 1890: pl. XI B, fig. 1). For dorsal view of tibia and patella of pedipalp with position and distribution of trichobothria see Figs. 21–22, 39. Trichobothrium d2 of pedipalp patella is on the dorsal surface, and trichobothrium d3 is on the edge between dorsal and internal surfaces (Fig. 39) or on the internal surface. Tibia of pedipalp with seven or eight keels. Pectinal teeth number 3-6.

The entire carapace is unevenly covered by granules of unequal size. The triangle between median eyes and anterior margin of the carapace bears only isolated, widely spaced granules or is entirely smooth. The distance ratio of median eyes from anterior and posterior margins of carapace is 1: 1.70 to 1: 2. The mesosoma bears large granules but is devoid of keels. The ventral side of mesosomal segments is smooth.

The first metasomal segment has 10 or eight keels (ventral keels may be absent or are smooth), the second through fourth segments have eight keels, and the fifth segment has seven keels of which one ventral keel posteriorly branches to form the letter “Y”. All keels are composed of large, tuberculate granules.

Surface between the keels is often granulated. Adults are black, but immature specimens may be light brown with black spots.

COMMENTS. *C. pictus* is based on two adult males and an immature female. The abnormal shape of the telson was regarded by Pocock (1890) as a generic character that led him to erect the genus *Uromachus* for the species. He designated one of the males as the holotype.

C. gemmifer is based on two examined females, which were originally stored dry and later on placed in alcohol. They are disarticulated and heavily damaged. I have designated them as the lectotype and paralectotype. Sexual dimorphism expressed in the relative length of metasomal segments and of the telson is quite unusual in the genus *Chaerilus*, and apparently caused Pocock to describe the adult males in 1890 as *C. pictus* and the adult females in 1894 as *C. gemmifer*, although they both came from the same locality. Examination of the types convinces me that *C. gemmifer* is a synonym of *C. pictus*.

DISTRIBUTION. Bangladesh (Pocock, 1890: 252), China (Tibet) (Kraepelin, 1913: 153), India (Kraepelin, 1913: 153).

***Chaerilus rectimanus* Pocock, 1899**
(Figs. 23–24, 40–41, Tables 1–2)

Chaerilus rectimanus Pocock, 1899b: 418; Fage, 1944: 72; Takashima, 1945: 100; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Singapore; BMNH.

TYPE MATERIAL EXAMINED. **Malaysia**, Singapore, 1♂A (lectotype), 1♀A (paralectotype No. 1), leg. H. N. Ridley, BMNH Nos 1898.10.18.4 and 1894.12.22.1.

OTHER MATERIAL EXAMINED. **Malaysia**, Bukit Fraser, 1500 m [elevation], 1.VIII.1999, 1♂E, leg. J. Hromádka, FKCP.

DIAGNOSTIC CHARACTERS. Total length 20 - 24 mm. Movable finger of pedipalp with seven or eight cutting edges composed of granules. Fingers are straight in both sexes. For dorsal view of tibia and patella of pedipalp with position and distribution of trichobothria see Figs. 23–24, 40–41. Trichobothrium d2 of pedipalp patella is absent on the dorsal surface but present as an internal trichobothrium (Figs. 40–41). Tibia of pedipalp has seven or eight keels, patella has five or six keels, and femur has four keels. Pectinal teeth number 5 (male) or 4 (female).

The entire carapace is sparsely covered by large granules, and even larger granules form two longitudinal, symmetrical keels. The mesosoma is densely granulated (in the male lectotype the granules are very small) but without keels. The ventral side of mesosomal segments is smooth, without keels.

The first through fourth metasomal segments have eight keels. The first segment is ventrally smooth, without keels, and the second through fourth segments bear eight keels.

The fifth segment has seven keels. All keels are composed of denticulate, posteriorly inclined granules.

COMMENTS. The species is based on a male and a female, which I examined and designated as the lectotype and paralectotype, respectively. The female was examined by Vachon in 1979 and given his No. 2484. This species is very similar to *C. celebensis*, but the female of *C. rectimanus* has a more ampullar and longer manus and a shorter fixed finger of pedipalp. The fixed finger/manus length ratio is about 1:2, whereas in the female of *C. celebensis* it is 1:1.4. This difference is even more pronounced in the males (Figs. 13 and 23).

DISTRIBUTION. Malaysia (Pocock, 1899b: 419).

Chaerilus robinsoni Hirst, 1911
(Fig. 25, Tables 1–2)

Chaerilus robinsoni Hirst, 1911: 470; Fage, 1933: 30; Takashima, 1945: 101; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Bukit Besar, Malay Peninsula; BMNH.

TYPE MATERIAL EXAMINED. **Malaysia**, Malay Peninsula, Bukit Besar, 3500 ft., 27.VIII.1901, 1♂A (holotype), leg. H. C. Robinson, BMNH No. 1911.10.27.1.

DIAGNOSTIC CHARACTERS. Total length is 45 mm. The male has flexed fingers. The movable finger of pedipalp has 11 cutting edges composed of granules. The fixed finger has 10 rows of granules. For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Fig. 25. The tibia of pedipalp has seven keels and two additional, weakly developed and incomplete keels on the internal surface. The patella of pedipalp has five keels and the femur has three keels. Two lateral keels on the external surface of the patella branch to form two additional keels. Pectinal teeth number 5.

The first metasomal segment has 10 keels and two short, accessory dorsal keels, the second through fourth segments have eight keels (two additional lateral keels are developed only in the posterior halves of the segments), and the

fifth segment has seven keels of which one ventral keel posteriorly branches to form the letter “Y”. All keels are composed of sparse, denticulate, posteriorly inclined granules.

The carapace is sparsely covered by granules of unequal size, including the area between the anterior margin and median eyes. Larger granules form two longitudinal, symmetrical keels. The mesosoma is granulated, lacks keels, but bears two symmetrical facets in the anterior part of each segment. The ventral side of mesosomal segments is smooth, without keels.

COMMENTS. The species is based on a male found under moss on a tree at Bukit Besar. *C. robinsoni* is very close to *C. variegatus*, with which it shares similar proportions. These two species differ in the number of cutting edges on the movable finger of pedipalp, 11 in *C. robinsoni* and 13 or 14 in *C. variegatus*.

DISTRIBUTION. Malaysia (Hirst, 1911: 471).

Chaerilus sabinae Lourenço, 1995
(Tables 1–2)

Chaerilus sabinae Lourenço, 1995: 847; Kovařík, 1998: 129.

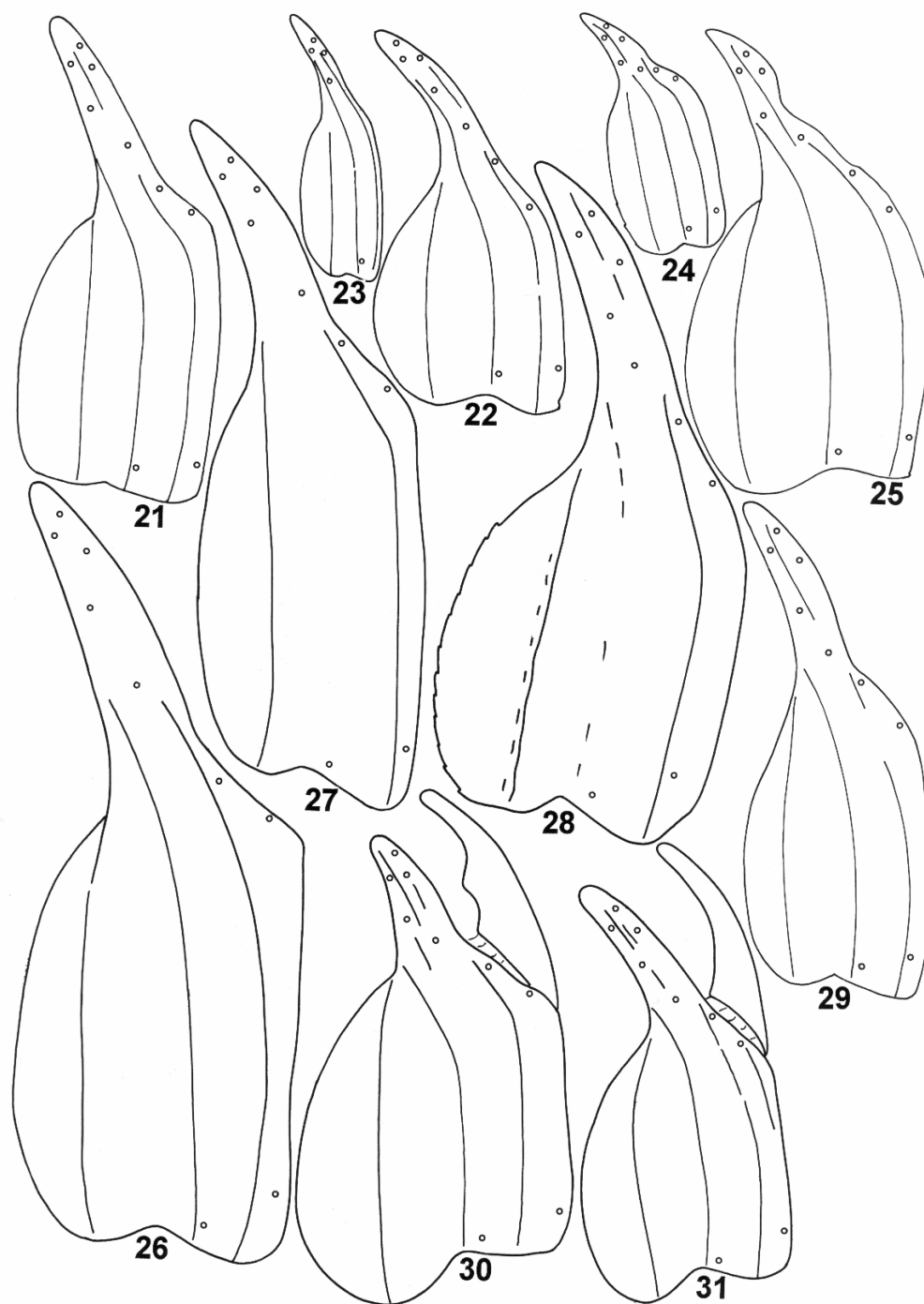
TYPE LOCALITY & DEPOSITORY. Cave of Gua Atas in the hills of Matampa, near Pangkajene in the region of Maros, Sulawesi Selatan Province on the Island of Sulawesi, Indonesia, 119°38'E, 4°48'44"S; MHNG.

TYPE MATERIAL EXAMINED. **Indonesia**, Cave of Gua Atas in the hills of Matampa, near Pangkajene in the region of Maros, Sulawesi Selatan Province on the Island of Sulawesi, Indonesia, 119°38'E, 4°48'44"S 1♂(im.)A (holotype), 12.VIII.1985, leg. L. Deharveng; MHNG.

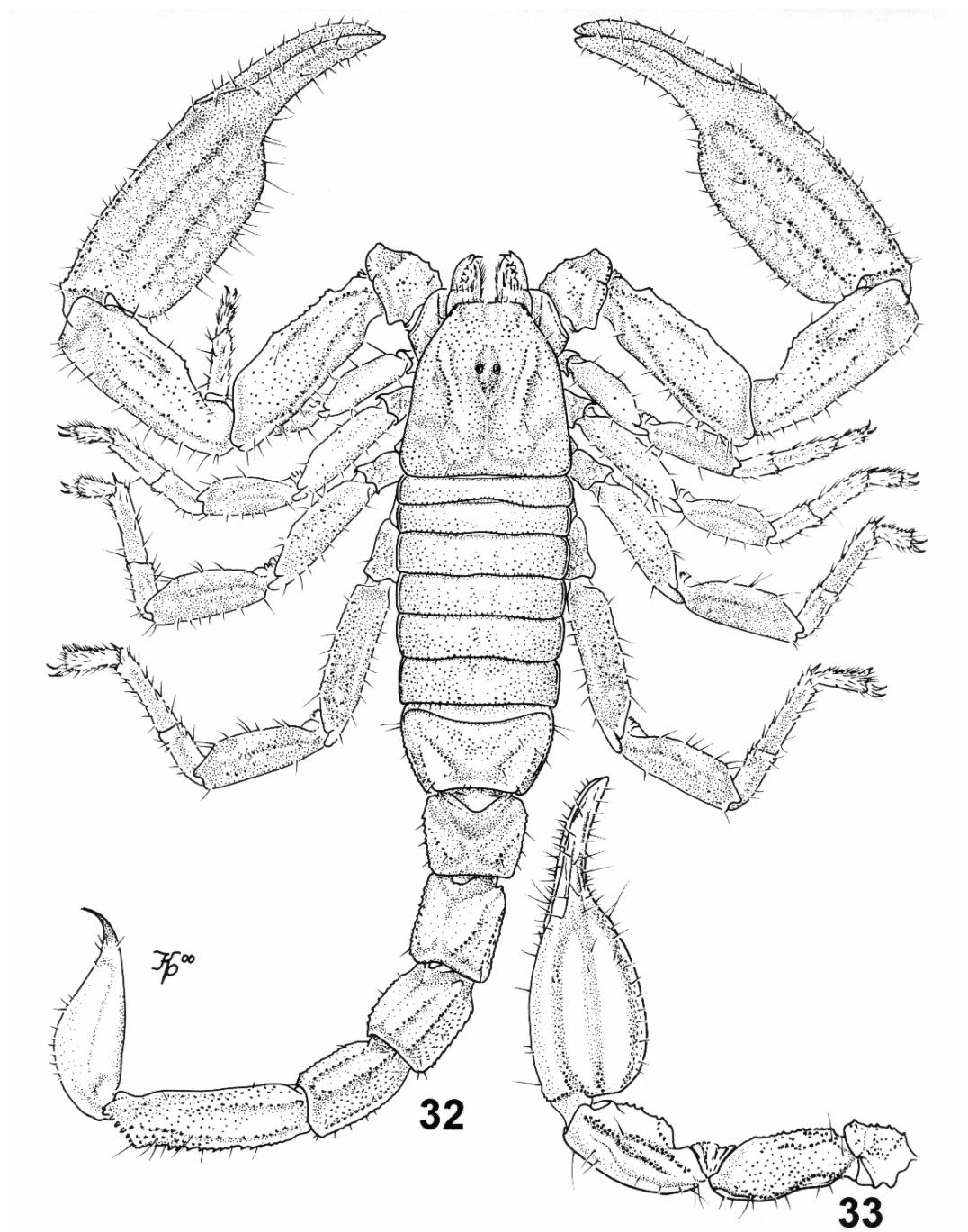
DIAGNOSTIC CHARACTERS. Total length of the holotype is 8 mm. This is a troglobitic species without either median or lateral eyes. For habitus and view of tibia, patella, and femur of pedipalp with position and distribution of trichobothria see Lourenço, 1995: 848-849, Figs. 1-9. Pectinal teeth number 4.

COMMENTS. The species is based on an immature male. The description incorrectly gives the type locality as in India (Lourenço, 1995: 847) but includes an inserted correction.

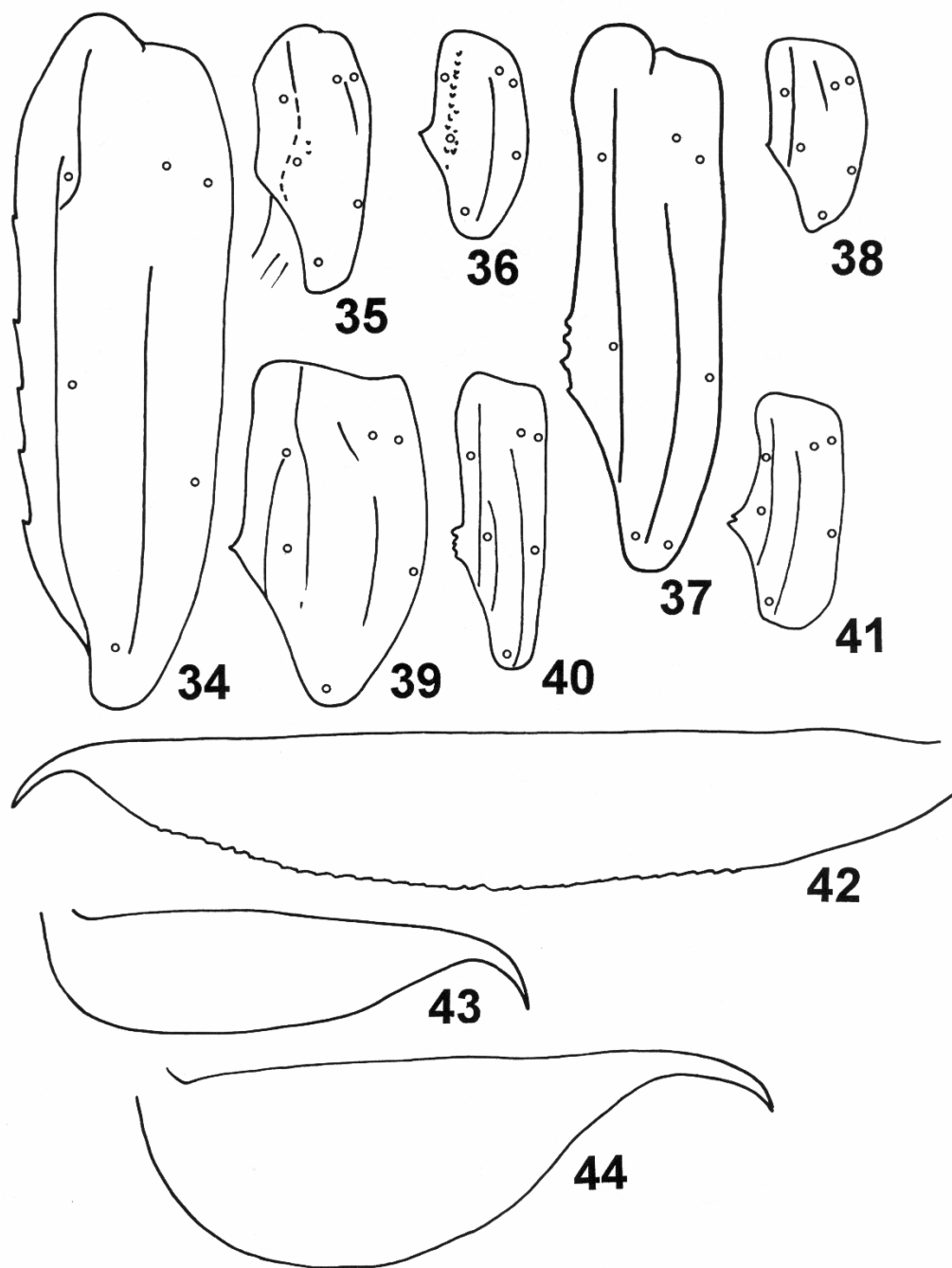
DISTRIBUTION. Indonesia (Lourenço, 1995: 847).



Figs. 21–31. Tibia of pedipalp, dorsal view. Figs. 21–22. *C. pictus* (Pocock). Fig. 21. ♂ holotype. Fig. 22. *C. gemmifer* Pocock, ♀ lectotype. Figs. 23–24. *C. rectimanus* Pocock. Fig. 23. ♂ lectotype. Fig. 24. ♀ paralectotype. Fig. 25. *C. robinsoni* Hirst, ♂ holotype. Fig. 26. *C. tichyi* sp. n., ♂ holotype. Figs. 27–28. *C. tricostatus* Pocock. Fig. 27. ♂ holotype. Fig. 28. ♀, ZMUH. Fig. 29. *C. truncatus* Karsch, ♀ lectotype. Figs. 30–31. *C. variegatus* Simon. Fig. 30. ♂ lectotype of *C. variegatus nigricolor* Pocock. Fig. 31. ♀ paralectotype of *C. variegatus nigricolor* Pocock.



Figs. 32–33. *C. tryznai* sp. n. Fig. 32. ♂ holotype, dorsal aspect.
Fig. 33. ♀ allotype, dorsal view of pedipalp.



Figs. 34–44. Figs. 34–41. Patella of pedipalp, dorsal view. Figs. 42–44. Telson. Fig. 34. *Chaerilus agilis* Pocock, ♀ holotype. Fig. 35. *C. cavernicola* Pocock, ♀ lectotype. Fig. 36. *C. celebensis* Pocock, ♀ lectotype. Fig. 37. *C. chapmani* Vachon & Lourenço, ♀, FKCP. Fig. 38. *C. petrzekai* sp. n., ♀ holotype. Fig. 39, 42–43. *C. pictus* (Pocock). Figs. 39 and 43. ♀ lectotype of *C. gemmifer* Pocock. Fig. 42. ♂ holotype. Figs. 40–41. *C. rectimanus* Pocock. Fig. 40. ♂ lectotype. Fig. 41. ♀ paralectotype. Fig. 44. *C. truncatus* Karsch, ♀ paralectotype of *C. anthracinus* Pocock.

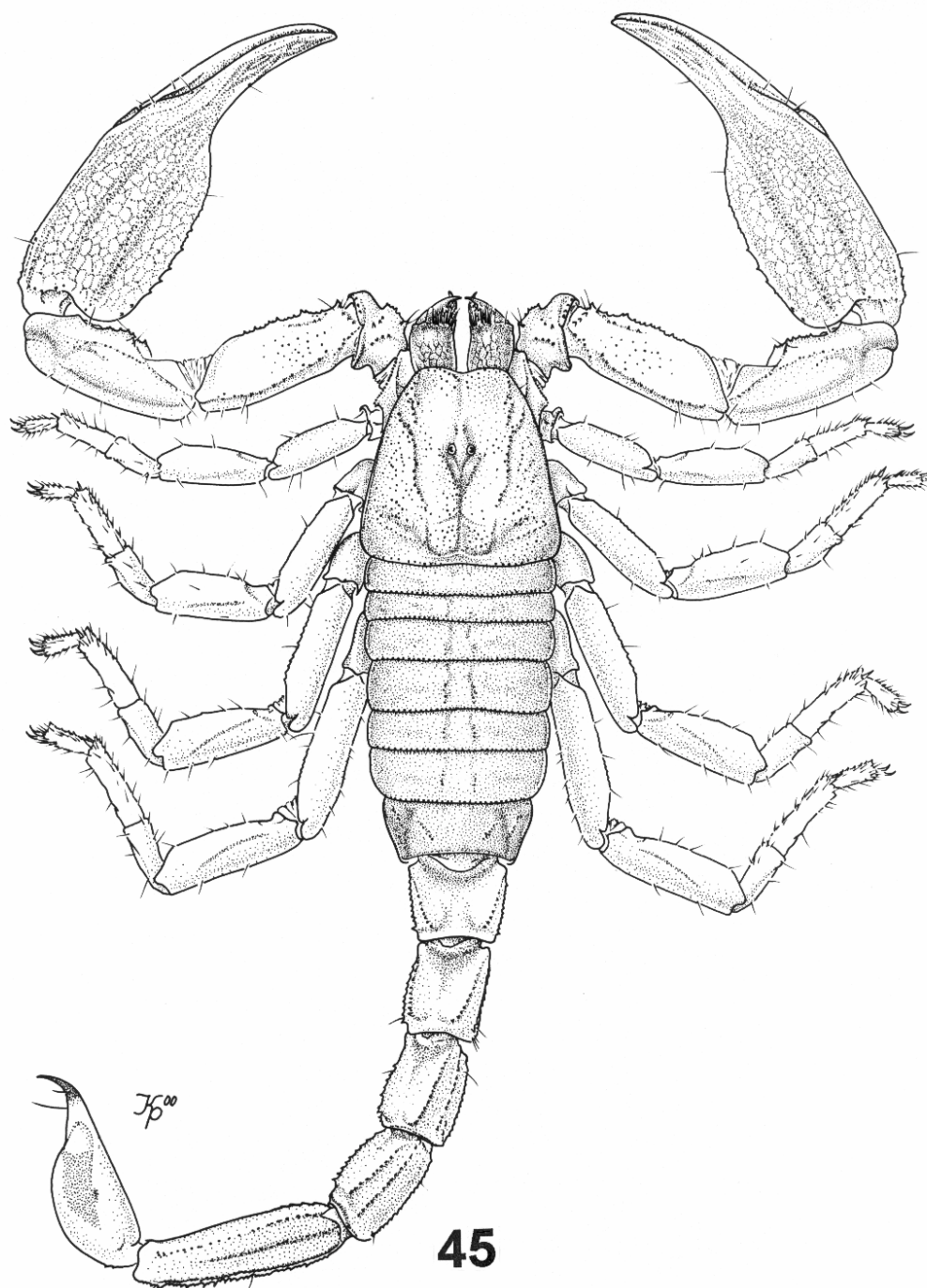


Fig. 45. *Chaerilus tichyi* sp. n., ♂ holotype, dorsal aspect.

***Chaerilus tichyi* sp. n.**
(Figs. 26, 45, Tables 1–2)

TYPE LOCALITY & DEPOSITORY. **Malaysia**, Pahang, Tioman Island, Kampong Gentling; FKCP.

TYPE MATERIAL EXAMINED. **Malaysia**, Pahang, 30 km south of Kuala Rompin, 15.IV.1996, 1♀ (allotype) 1juv. (paratype No. 2) A, FKCP; Pahang, Tioman Island, Kampong Gentling, 23.-25.II.1998, 1♂ (holotype) 1♀ (paratype No.1) E, leg. V. Tichý, FKCP.

ETYMOLOGY. Named after the collector.

DIAGNOSTIC CHARACTERS. Total length 70.9 – 75.4 mm. The movable finger of pedipalp has 15 or 16 and the fixed finger 14 or 15 cutting edges composed of granules. Fingers are entirely straight in both sexes, but the male has a relatively larger pecten. The habitus is shown in Fig. 45. For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Fig. 26. Trichobothrium d2 of pedipalp is on the dorsal surface and d3 is on the internal surface. The tibia of pedipalp has eight pronounced keels that may be sparsely granulated. Only the upper internal keel is granulated more densely. The patella and femur bear five nearly smooth keels. The tibia of pedipalp is reticulated, but almost without granules. Pectinal teeth number 7-10.

The carapace is sparsely covered by granules which may form two longitudinal, symmetrical keels (allotype). The mesosoma is granulated (but not in the young) and without keels. The ventral side of mesosomal segments is smooth, without keels.

The colour is uniformly black to dark brown. The mesosoma may have reddish-brown symmetrical spots on all tergites, and also the telson may be reddish brown. The tergites are light brown. The chelicerae are granulated, weakly reticulated, and predominantly black.

All keels of metasomal segments (10 on the first segment, 8 on the second through fourth segments and 7 on the fifth segment) are pronounced and composed of large, denticulate granules.

AFFINITIES. The described features distinguish *C. tichyi* sp. n. from all other species of the genus *Chaerilus*. They are recounted in the key below.

C. tichyi sp. n. may reach the length of over 70 mm and is the largest species of the genus. It is also the species with the highest number of cutting edges on the movable finger of pedipalp (15 – 16), other species have at most 14 cutting edges. Moreover, the male of *C. tichyi* sp. n. has 10 pectinal teeth, whereas in the other species the number does not exceed eight.

***Chaerilus tricostatus* Pocock, 1899**
(Figs. 27–28, Tables 1–2)

Chaerilus tricostatus Pocock, 1899a: 266; Pocock, 1900: 59; Henderson, 1913: 131; Kraepelin, 1913: 146; Takashima, 1945: 101; Minnocci, 1974: 31; Tikader

& Bastawade, 1983: 320; Bastawade, 1985: 260; Tikader, 1987: 33; Bastawade, 1994: 436; Kovařík, 1998: 129.

TYPE LOCALITY & DEPOSITORY. Sadi in the Khasia Hills, India; BMNH.

TYPE MATERIAL EXAMINED. **India**, Sadiya, Khasia Hills, 1♂A (holotype), BMNH No. 1897.6.24.2, revised M. Vachon in October 1972.

OTHER MATERIAL EXAMINED. **India**, Upper Rotung, Abor Exped., 1♀A, VII.1913, Mus. Calcutta, ZMUH.

DIAGNOSTIC CHARACTERS. Total length 48 - 52.1 mm. The movable finger of pedipalp has 11 or 12 cutting edges composed of granules. The examined male holotype has the fingers entirely straight and the manus of pedipalp relatively narrower and longer than the female (see Tab. 1). For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Figs. 27–28. Trichobothrium d2 of pedipalp is on the dorsal surface and trichobothrium d3 on the internal surface. The tibia of pedipalp has six keels. Pectinal teeth number 5-6 (Henderson, 1913 counted up to 9).

The carapace is sparsely (holotype) or densely (the ZMUH female) covered by granules, and larger granules form two longitudinal, symmetrical keels along the median eyes. The chelicerae are also granulated.

The mesosoma is granulated and bears two keels which, although not quite complete, are well discernible in the posterior halves of the third through sixth segments. The ventral side of mesosomal segments is smooth, with four keels composed of large and widely spaced granules.

The first metasomal segment has 10 keels, the second through fourth segments have eight keels, and the fifth segment has seven keels.

COMMENTS. The species is based on two males, of which I have examined the one labeled the holotype. It was originally stored dry, but is presently in alcohol. This species is very similar to *C. insignis*, which differs in having a complete number of keels on the manus of pedipalp and mesosomal segments devoid of keels.

DISTRIBUTION. India (Pocock, 1899a: 267).

Chaerilus truncatus Karsch, 1879
(Figs. 1–7, 29, 44, Tables 1–2)

Chaerilus truncatus Karsch, 1879: 108; Ausserer, 1880: 466; Simon, 1880: 381; Kraepelin, 1894: 146 (in part ?); Kraepelin, 1899: 160; Pocock, 1900: 63;

Kraepelin, 1913: 148; Vachon, 1940: 248; Takashima, 1945: 100; Minnocci, 1974: 31; Moritz & Fischer, 1980: 325; Tikader & Bastawade, 1983: 358; Kovařík, 1998: 129.

Chaerilus margaritatus Pocock, 1894a: 79 (TL: India; BMNH); Pocock, 1900: 58; Takashima, 1945: 101; Minnocci, 1974: 31 (syn. by ? Kraepelin, 1899: 160; Tikader & Bastawade, 1983: 358).

Chaerilus granosus Pocock, 1900: 56 (TL: Western Himalayas, Mussooree; BMNH); Kraepelin, 1913: 143; Takashima, 1945: 101; Mani, 1959: 12; Minnocci, 1974: 31; Tikader & Bastawade, 1983: 352; Kovařík, 1998: 129.

Syn. n.

Chaerilus anthracinus Pocock, 1900: 57 (TL: Dalhousie in the Western Himalayas, India; BMNH); Kraepelin, 1913: 143; Takashima, 1945: 101; Mani, 1959: 12; Minnocci, 1974: 31; Tikader & Bastawade, 1983: 364; Kovařík, 1998: 129. **Syn. n.**

Chaerilus anthracinus rufescens Pocock, 1900: 57 (TL: Dharmasála in the Western Himalayas, India; BMNH); Mani, 1959: 12; Minnocci, 1974: 31; Tikader & Bastawade, 1983: 370; Kovařík, 1998: 129. **Syn. n.**

Chaerilus hirsti Kraepelin, 1913: 150 (TL: Simla, Dehra Dun and Nepal; BMNH); Takashima, 1945: 101; Minnocci, 1974: 31; Kovařík, 1998: 129.

Syn. n.

? *Chaerilus granifrons* Kraepelin, 1913: 147 (TL: unknown; NZSI); Takashima, 1945: 101; Minnocci, 1974: 31; Kovařík, 1998: 129. **Syn. n.**

TYPE LOCALITY & DEPOSITORY. Himalaya; ZMHB.

TYPE MATERIAL EXAMINED. **India**, Himalaya, 2♀A (lectotype and paralectotype), leg. Trochnow, ZMHB No. 3055; 1♀A (Hardwicke coll.) (holotype of *Chaerilus margaritatus*), BMNH; Dalhousie, Punjab, 1♂1♀A (lectotype and paralectotype of *Chaerilus anthracinus*), Townsend, BMNH; Dharmasala, Punjab, 1♂A (holotype of *Chaerilus anthracinus rufescens*), leg. Fulton, BMNH No. 1897.9.5.34; N. W. P. India, Mussoorie, 1♀A (holotype of *Chaerilus granosus*), leg. Rattray, BMNH No. 1897.9.17.51-60; Kumaon, Bhawli, 26.VI.1912, 1im.A (holotype of *Chaerilus hirsti*), BMNH.

OTHER MATERIAL EXAMINED. **India**, Himalaya, 1♂A, ZMHB; Himalaya, VI.1986, 1♂1juv.A, Mus. Gent, ZMUH; Base of Daph Hill, X.1912, 1♀A, ZMUH; W. Himalaya, Mufsoni, 5.VII.1913, 1♂1♀A, Mus. Calcutta, ZMUH No. 1727; Kiari, Nainital, 5.VII.1913, 1♀A, Mus. Calcutta, ZMUH No. 1728; Almora Kumaon, Mus. Calcutta, VII.1913, 1juv.A (labeled as: cotypus of *Chaerilus hirsti*), det. Kraepelin, ZMUH; Simba, VIII.1913, 1♀A, Mus. Calcutta, ZMUH; Himachal Pradesh, Bassa Valie Parvati, 1400 m, 30.VI.1980, 1♀E, FKCP; Pradesh, Nainital env., Bhimtal env., 1400-1600 m, 6.-10.VIII.1997, 1♂E, leg. J. Schneider, FKCP. **Nepal**, Kathmandu, Balaju, 1400 m, 20.V.1983, 1♀A, leg. M. Brancucci, NHMB No. 142; Kathmandu env., 3♂5♀

E, 19.V.1990, leg. S. Snäll, FKCP; West Nepal, Zone Gandaki, District Kaski, Chandra Lodge Nagdanda, 16.VII.1997, 2♀(1im.)A, leg. Tillack, Lorenz, and Eckert, ZMHB.

DIAGNOSTIC CHARACTERS. Total length 43.5 - 68 mm. The movable finger of pedipalp has 9-13 cutting edges composed of granules. Fingers are straight in both sexes, but the male has a relatively somewhat larger telson than the female. For dorsal view of tibia, patella, and femur of pedipalp with position and distribution of trichobothria see Figs. 1-7, 29. Trichobothrium d2 of pedipalp is on the dorsal surface and trichobothrium d3 on the internal surface (Fig. 4). The tibia of pedipalp has seven or eight keels. Pectinal teeth number 3-6. The entire animal is covered by short hairs.

Only the immediate proximity of the median eyes is smooth, otherwise the entire carapace is covered by granules. The holotype of *C. margaritatus* has the smooth area somewhat more extensive. Two longitudinal, symmetrical keels composed of granules run along the median eyes but are not conspicuous. The distance ratio of median eyes from the anterior and posterior margins of the carapace is 1: 1.45 to 1: 1.75. The chelicerae are finely granulated.

The mesosoma has neither dorsal nor ventral keels. Its dorsal side is densely covered by large granules, but granulation may be sparse or altogether absent in immature or smaller specimens. The ventral side of mesosomal segments is smooth in all specimens.

The first metasomal segment is often devoid of keels or has only smooth keels. The second through fourth segments have eight well developed keels composed of round, blunt granules.

COMMENTS. The species is based on two females, which I have designated as the lectotype and paralectotype. Very similar but smaller than *C. cavernicola*, which Kraepelin (1894: 146) regarded as possibly synonymous to *C. truncatus*.

C. anthracinus is based on two syntypes which I have designated as the lectotype (male) and paralectotype (female). They were originally stored dry, later placed in alcohol, and currently they both are disarticulated and heavily damaged. I have long thought that *C. anthracinus* is a valid species because its lectotype has the dorsal side of mesosomal segments densely granulated, whereas in the lectotype of *C. truncatus* the mesosomal segments are entirely smooth. However, study of additional specimens has revealed transitional forms with sparsely granulated mesosomal segments. It is thus clear that this character lacks taxonomic significance, as is best demonstrated on two females from Nepal (ZMHB), of which the larger is identical with the lectotype of *C. anthracinus* and the smaller (immature) with the lectotype of *C. truncatus*, although there can be no doubt that they both belong to the same species. The

holotype of *C. margaritatus* also has mesosomal segments rather sparsely granulated.

C. anthracinus rufescens was based by Pocock on one male, which I have examined. Pocock (1900: 57) stated that the specimen is less densely granular and not so dark but rather reddish brown. After seeing many specimens of *Chaerilus* I am convinced that such differences fall within the limits of intraspecific variability and thus lack taxonomic significance. Since I have not found any character that would allow separation of the two taxa, my conclusion is that *C. anthracinus rufescens* is not a valid subspecies.

C. granosus is based on one female 52.3 mm long. It has four teeth in each pecten, movable fingers with 10 rows of granules, granulated mesosomal segments, and ventrally smooth seventh mesosomal segment.

C. hirsti was based by Kraepelin on one immature specimen 36 mm long. Its immaturity and light brown to yellow base colour with dark spots apparently confused Kraepelin and led him to regard it as a new species. This specimen has smooth mesosomal segments and carapace without granules, which is quite normal for juvenile *C. truncatus*.

Chaerilus granifrons was based by Kraepelin on a single specimen which he believed to be a female (Kraepelin, 1913: 147), but because of its length (35 mm) it is more likely a juvenile of indeterminate sex. Kraepelin did not know the provenance of this specimen, and his description does not include characters that would permit differentiation from *C. truncatus*. The type is deposited at NZSI which would not respond to my loan request. However, in light of what has just been said, of the old key in which Kraepelin (1913: 143) had obvious difficulties to separate *C. granifrons* from *C. truncatus* and its synonym, and of the fact that there is no published record of specimens other than the type (Takashima, 1945: 101, Minnocci, 1974: 31, and Kovařík, 1998: 129 only list the species in a catalogue-like manner), I believe that *C. granifrons* is a synonym of *C. truncatus*.

DISTRIBUTION. India (Karsch, 1879: 108), Nepal (Kraepelin, 1913: 151).

***Chaerilus tryznai* sp. n.**
(Figs. 32–33, Tables 1–2)

TYPE LOCALITY & DEPOSITORY. **China (Tibet)**, Bomi env. 29°52'N, 95°45'E, mixed forest; FKCP.

TYPE MATERIAL EXAMINED. **China (Tibet)**, Bomi env. 29°52'N, 95°45'E, 9.-10.VII.1997, ca 3000 m, 1♂E (holotype) 2♀E (allotype and paratype No. 1) 10♀lim.A (paratypes Nos. 2 – 12), leg. M. Trýzna & O. Šafránek, FKCP.

ETYMOLOGY. Named after the collector.

DIAGNOSTIC CHARACTERS. Total length 30 – 38.9 mm. Movable and fixed finger of pedipalp each have eight cutting edges composed of granules. Fingers are straight in both sexes, but the male has a narrower manus of pedipalp (see Figs. 32–33 and Table 1) and larger pectens. Habitus of the male holotype is shown in Fig. 32. Trichobothrium d2 of pedipalp is on the dorsal or internal surface and d3 is on the internal surface. The tibia of pedipalp has eight granulated keels. The patella has five keels and femur four or five keels. The tibia of pedipalp is finely granulated even between keels, but the granules do not form a reticulate pattern. Conspicuous granules are also on the patella of pedipalp, and drawing a boundary between free granules and a keel thus is subjective. Pectinal teeth number 3-4.

The carapace is covered by granules of unequal size, which may form two symmetrical, longitudinal keels. The mesosoma is covered by large, hemispherical granules but lacks keels. Also the ventral side of the seventh mesosomal segment bears large, hemispherical granules. Other sternites are smooth.

The colour is uniformly black to blackish brown.

All keels of metasomal segments (10 on the first segment, eight on the second through fourth segments, and seven on the fifth segment) are well developed and composed of large, tuberculate granules. The dorsal surface between the keels is smooth, whereas on the ventral and lateral surfaces there often are conspicuous free granules.

AFFINITIES. The described features distinguish *C. tryznai* sp. n. from all other species of the genus *Chaerilus*. They are recounted in the key below.

C. tryznai sp. n. is well characterized by the presence of eight cutting edges of granules on the movable finger of pedipalp, because this number occurs in only one other Indian and Chinese species, *C. assamensis*. However, in males of *C. assamensis* the anterior margin of the carapace is arched (see the key below and Kraepelin, 1913: 141), whereas in *C. tryznai* sp. n. it is straight in both sexes.

***Chaerilus variegatus* Simon, 1877**
(Figs. 30–31, Tables 1–2)

? *Scorpio australasiae*: Herbst, 1800: 57 (Kraepelin, 1899: 158).

Chaerilus variegatus Simon, 1877: 239; Karsch, 1879: 107; Simon, 1880: 381; Thorell, 1888: 335; Kraepelin, 1894: 144; Pocock, 1894b: 90; Laurie, 1896: 122; Kraepelin, 1899: 158; Kraepelin, 1901: 273; Werner, 1902: 604;

Kraepelin, 1913: 146; Kopstein, 1921: 142; Kopstein, 1923: 185; Kopstein, 1926: 111; Banks, 1928: 505; Giltay, 1931: 18; Fage, 1933: 30; Werner, 1934: 288; Fage, 1936: 181; Roewer, 1943: 237; Fage, 1944: 71; Dammerman, 1948: 71; Takashima, 1945: 99; Bücherl, 1959: 270; Vachon & Lourenço, 1985: 9; Kovařík, 1992: 185; Kovařík, 1994: 198; Kovařík, 1998: 129.

Chaerilus variegatus variegatus: Kopstein, 1935: 210.

? *Chaerilus borneensis* Simon, 1880: 379 (TL: N Borneo; MNHN); Vachon & Abe, 1988: 26 (syn. by ? Kraepelin, 1894: 144; ? Kraepelin, 1899: 158).

Chelomachus birmanicus Thorell, 1889: 584 (TL: Rangoon, Birmania) (syn. by ? Kraepelin, 1894: 144; ? Kraepelin, 1899: 158).

Chaerilus birmanicus: Pocock, 1900: 62; Takashima, 1945: 100.

Chaerilus variegatus nigricolor Pocock, 1899b: 419 (TL: Protjat in Eastern Java; BMNH); Kopstein, 1921: 143; Giltay, 1931: 18; Kopstein, 1935: 209; Takashima, 1945: 100; Dammerman, 1948: 494; Vachon & Abe, 1988: 26; Kovařík, 1998: 129. **Syn. n.**

TYPE LOCALITY & DEPOSITORY. Java; MNHN.

TYPE MATERIAL EXAMINED. **Indonesia**, Protjat in Eastern Java, 1♂1♀A (lectotype and paralectotype No. 1 of *Chaerilus variegatus nigricolor*), leg. W. Kulczyński, BMNH No. 1898.6.25.1-2. **Myanmar**, Birmania, Rangoon, 1juv.A (holotype of *Chelomachus birmanicus*), III.1886, leg. L. Fea, MCSN.

OTHER MATERIAL EXAMINED. **Indonesia**, Java, Mons Gede, 1♀E, VIII.1892, leg. Fruhstorfer, NMPC; Banka, 1893, 1♂A, Mus. Dresden, ZMUH No. 1712; Sumatra, Ins. Engano, Bua Bua, 30.I.1896, 1♂2♀A, Mus Genua, ZMUH; ? Java, 17.XI.1896, 1♂A, ZMUH; Java, Vulkan Geck, 8.II.1897, 1♀2juv.A, 18.II.1897, 1♂8♀13juv.A, leg. Frühstorfer, ZMUH; Java, Batavia, 27.IX.1897, 1♀A, leg. W. Wulfin, ZMUH No. 1715; Java, 24.VI.1899, 2♂2♀A, Mus. Karlsruhe, ZMUH; Java, Tjibodas, 8.VI.1904, 1♂1♀(im.)2juv.A, ZMUH No. 1719; Java Depon, 8.VI.1904, 1♀(im.)A, ZMUH; Lombok, Tengengeak, 2♂3♀A, 1909, Sunda Exped. des Frankf., leg. J. Elbert, SMFD Nos 5380 and 5303; Java, Idien-Geb, 1♀A, SMFD No. 6731/138; Java, 1♂1♀1im.E, FKCP det.1987; W. Java, Tjibodas, 4600 m, 1♂E1♂1♀3im.A, 1980, FKCP; Java, Puncak Pass, 34 km from Bogor, 1500 - 1600 m, 7.VII.1994, 1im.A, leg. P. Beron & V. Beshkov, SOFM No. 178; W. Java, Charita env. ca 300 m, 1♂1♀3juv.A, 6.-10.IV.1996, leg. R. Zajíček, FKCP; Java, 1♂A, FKCP; Java, Bogor env., 1♀A, V.1998, FKCP.

DIAGNOSTIC CHARACTERS. Total length is about 45 - 50 mm. In contrast to female, the male has flexed fingers (in some, mostly smaller and immature males the fingers are nearly straight) and larger pectinal teeth. For habitus see Pocock, 1894b: pl. VI, fig. 4. The movable finger of pedipalp has 13-14 cutting edges composed of granules, and the fixed finger has 12-13 rows of granules.

For dorsal view of tibia of pedipalp with position and distribution of trichobothria see Figs. 30–31. The tibia of pedipalp has seven keels, the patella has five keels, and the femur has four keels. Pectinal teeth number 3-8.

The first metasomal segment has 6 or 10 keels (two ventral keels are sometimes poorly developed or absent, and the main lateral keels may also be absent), the second through fourth segments have eight keels, and the fifth segment has seven keels of which one ventral keel posteriorly branches to form the letter “Y”. All keels are composed of posteriorly inclined, denticulate granules.

The carapace is covered by relatively large granules including the area between anterior margin and median eyes. Even larger granules form two symmetrical, longitudinal keels, which may reach the posterior margin of the carapace. The mesosoma is granulated or smooth and lacks keels, except for one ZMUH male which has two keels in the posterior parts of the segments. In some specimens, especially males, the anterior parts of mesosomal segments may bear symmetrical facets. The ventral side of mesosoma is smooth, without keels.

COMMENTS. *C. variegatus nigricolor* was based on adult specimens which Pocock (1899b: 419) distinguished from *C. variegatus*, based on an immature specimen, primarily on the basis of dark colouration. The young of *C. variegatus* as well as of most other *Chaerilus* species are spotted, and this persists also in younger adults which, however, eventually become uniformly dark. Although in some populations the young may be nearly black (juveniles from Charita env.), the geography of their occurrences indicates that they are not subspecies.

C. borneensis is considered a synonym of *C. variegatus* (Kraepelin, 1894: 144; Kraepelin, 1899: 158). Vachon & Abe (1988: 26) questioned the synonymy and believed *C. borneensis* to be a valid species, unfortunately without providing any evidence. *C. borneensis* is based on a juvenile 25.1 mm long, and from rearing *Chaerilus* it is clear that each ecdysis results not just in size increase but also in other changes such as in the shape of tibia of pedipalp. It is thus likely in my opinion that *C. borneensis* is a synonym of *C. variegatus*.

The same applies to the examined holotype of *C. birmanicus*, which is a juvenile only 15.5 mm long.

DISTRIBUTION. Indonesia (Simon, 1877: 240), Myanmar (Thorell, 1889: 584).

Key to *Chaerilus* species

1. Median and lateral eyes present 2
- Median and lateral eyes absent *C. sabiniae* Lourenço

2. Movable finger of pedipalp with 7 - 8 rows of granules (Fig. 9) 3
- Movable finger of pedipalp with 9 - 16 rows of granules 10

3. Anterior margin of carapace straight in both sexes 4
- Anterior margin of male carapace arched (Fig. 3b in Kraepelin, 1913: 141) ...
..... *C. assamensis* Kraepelin

4. Ventral side of first metasomal and seventh mesosomal segments with many granules 5
- Ventral side of first metasomal and seventh mesosomal segments smooth (granules may be present on margins of the mesosomal segment) 6

5. Total length of adults under 30 mm (Vietnam) *C. petrzekai* sp. n.
- Total length of adults over 30 mm (India, China) *C. tryznai* sp. n.

6. Total length of adults under 30 mm 7
- Total length of adults over 30 mm 8

7. Female manus narrowly ampullar and fixed finger short, fixed finger to manus length ratio is 1:2. Male manus very narrow (Fig. 23). Trichobothrium d2 on patella of pedipalp either absent on dorsal surface but present as internal trichobothrium, or on dorsal/internal edge (Figs. 40–41).. *C. rectimanus* Pocock
- Female fixed finger to manus length ratio is 1:1.4. Male manus wider and ampullar (Fig. 13). Trichobothrium d2 on patella of pedipalp either on dorsal surface (Fig. 38), or on dorsal/internal edge (Fig. 36) *C. celebensis* Pocock

8. Trichobothrium d2 on patella of pedipalp on dorsal surface, trichobothrium d3 on dorsal/internal edge (Fig. 34) *C. agilis* Pocock
- Trichobothrium d2 on patella of pedipalp either absent on dorsal surface but present as internal trichobothrium (Fig. 37), or on dorsal/ internal edge. Trichobothrium d3 always on internal surface (Fig. 37) 9

9. Total length of adults under 40 mm. Metasoma very slender, fifth metasomal segment with length to width ratio higher than 2.9
..... *C. chapmani* Vachon & Lourenço
- Total length of adults over 40 mm. Fifth metasomal segment with length to width ratio lower than 2.5 *C. laevimanus* Pocock

10. Tibia of pedipalp with nine keels. Fingers very short (Fig. 14). Second metasomal segment with ten keels, but two lateral keels incomplete *C. ceylonensis* Pocock
 -. Tibia of pedipalp with eight or less keels. Fingers not markedly short (Figs. 30–31). Second metasomal segment with eight keels 11
11. Manus of pedipalp with a lobe and very wide (Figs. 25, 30–31). Adult male has fingers flexed (Fig. 25) 12
 -. Manus of pedipalp without a lobe and not wide (Figs. 21, 27). Adult male has fingers straight (Fig. 21) 13
12. Movable finger of pedipalp with 11 rows of granules ... *C. robinsoni* Hirst
 -. Movable finger of pedipalp with 13–14 rows of granules *C. variegatus* Simon
13. Male telson very long (Fig. 42). Aculeus very short, not exceeding one-half of vesicle length *C. pictus* (Pocock)
 -. Aculeus of both sexes reaches approximately one-half of vesicle length (Fig. 44) 14
14. Manus lacks one dorsal (Fig. 27) and one internal keel. Total of six keels on manus of pedipalp *C. tricosatus* Pocock
 -. Manus with full number of dorsal keels (Fig. 1), internal keel may or may not be developed. Total number of seven or eight keels on manus of pedipalp .. 15
15. Pectinal teeth number 10. Movable finger of pedipalp with 15 or 16 rows of granules *C. tichyi* sp. n.
 -. Pectinal teeth number 3–7. Movable finger of pedipalp with 9–14 rows of granules 16
16. Manus of tibia narrow and long (Figs. 16–17). Tibia length to manus width ratio in adults higher than 3.3 *C. insignis* Pocock
 -. Tibia length to manus width ratio in adults lower than 3.1 (Figs. 1, 11) 17
17. Total length of adults 45–68 mm. Occurs in India *C. truncatus* Karsch
 -. Total length of adults 43 mm or less. Occurs in Indonesia, Malaysia, and Thailand *C. cavernicola* Pocock
-

	total length	carapace length width	metasoma total length width	I length width	II length width	III length width	IV length width	V length width	tel. length width	pedipalp femur length width	patella length width	tibia length width	ma. fin. length width	pec- tinal teeth
<i>Chaerilus agilis</i> F, HT	58.6	7.5 7.2	28.6 2.7 2.9 3.3 2.4 3.4 2.3 3.7 2.1 7.2 2.0 7.8							8.5 2.5 8.5 2.5 16.5 3.8 9.5				4:4
<i>C. cavernicola</i> M, FKCP F, HT	42.1 27.6	6.0 5.8 3.7 3.5	22.6 2.2 3.3 2.7 2.8 3.0 2.6 3.3 2.4 5.4 2.2 5.9 14.6 1.3 1.9 1.7 1.7 1.6 1.5 2.4 1.0 3.4 0.9 4.0							4.7 2.1 5.1 2.2 10.5 3.5 6.2 2.9 1.3 3.0 1.5 6.5 2.1 3.7				6:6 4:4
<i>C. celebensis</i> M, FKCP F, HT	25.1 19.5	3.6 3.3 2.8 2.6	14.6 1.5 2.0 1.7 1.7 1.8 1.6 1.9 1.5 3.2 1.4 4.1 10 0.9 1.4 1.1 1.2 1.2 1.1 1.2 1.1 2.5 1.0 3.1							3.4 1.2 3.7 1.4 7.2 2.6 3.2 2.3 1.0 2.4 1.2 4.8 1.9 2.4				4:4 3:3
<i>C. ceylonensis</i> M, HT	44.3	5.4 5.7	20.8 2.1 3.2 2.4 2.6 2.6 2.4 2.8 2.1 5.0 2.0 5.4							3.8 2.0 4.5 2.1 9.1 4.0 3.8				5:6
<i>C. chapmani</i> F, FKCP	37.5	5.3 5.2	19 1.6 1.9 2.4 1.6 2.4 1.5 2.5 1.4 4.6 1.4 5.2							6.8 1.8 7.0 1.8 12.6 3.1 6.4				3:3
<i>C. insignis</i> M, HT F, FKCP	65.7 64.9	9.0 8.4 8.8 9.1	39.4 3.7 4.6 4.5 3.5 4.7 3.5 5.7 3.3 10.3 2.7 10.5 36.8 3.4 4.7 4.2 3.7 4.5 3.5 5.1 3.4 9.1 3.3 9.8							9.7 3.6 10.2 4.1 21.0 4.5 9.3 9.9 4.1 10.7 4.2 18.7 4.7 9.0				6:7 6:6
<i>C. laevimanus</i> M, FKCP F, HT	52.3 42	6.1 6.3 6.0 6.0	29.4 3.0 3.8 3.5 3.5 3.8 3.4 4.2 3.2 6.8 2.8 7.6 22.2 2.4 3.0 2.6 2.8 2.8 2.7 3.1 2.5 5.2 2.4 5.8							6.3 2.1 6.7 2.1 13.3 3.9 6.4 5.0 2.1 5.3 2.2 10.9 4.2 6.0				5:5 4:4
<i>C. petrzekai</i> sp. n. F, HT	21.4	3.1 3.3	10.4 1.0 1.7 1.1 1.4 1.3 1.4 1.4 1.3 2.6 1.3 3.0							2.3 1.1 2.4 1.3 5.4 2.0 2.5				4:4
<i>C. pictus</i> M, HT F, LT <i>C. gemmifer</i>	65.7 38.5	7.3 7.0 5.7 5.3	44.4 4.0 3.2 5.2 2.6 5.4 2.5 6.2 2.2 10.6 2.1 11.0 23 2.4 2.7 2.8 2.6 3.3 2.5 3.4 2.3 5.6 2.1 5.5							5.1 2.1 6.0 2.5 11.4 4.5 6.1 4.0 1.9 4.8 2.3 9.1 3.8 4.5				5:5 4:4
<i>C. rectimanus</i> M, LT F, PLT	20.6 -	3.2 3.0 3.2 3.4	11.6 1.2 1.6 1.3 1.5 1.4 1.4 1.6 1.4 2.9 1.4 3.1 - - - - - - - - - 3.2 1.8 3.4							3.0 0.9 3.4 1.0 6.0 1.7 2.8 2.7 1.2 2.9 1.2 5.7 2.3 2.7				5:5 4:4
<i>C. robinsoni</i> M, HT	45	6.0 6.0	25.3 2.6 3.2 2.8 2.9 3.2 2.7 3.6 2.5 6.1 2.5 7.0							4.8 2.0 4.7 2.4 10.8 5.7 6.1				5:5
<i>C. sabiniae</i> M(im.), HT	8	1.1 1.1	3.8 0.3 0.5 0.4 0.4 0.6 0.3 0.6 0.3 0.8 0.3 0.7							0.9 0.4 1.1 0.4 2.1 0.5 1.1				4:4
<i>C. tichyi</i> sp. n. M, HT F, AT	70.9 75.4	9.8 10.1 10.6 10.6	40.7 4.0 4.9 4.9 4.3 5.1 4.0 5.6 3.7 10.3 3.3 10.4 38.4 4.0 5.0 4.7 4.3 4.9 3.9 5.2 3.7 9.4 3.3 9.8							9.2 3.7 9.4 4.0 20.4 6.7 10.7 8.5 3.8 9.0 3.8 19.7 6.6 10.8				10:10 7:7
<i>C. tricostatus</i> M, HT F, ZMUH	52.1 55.3	7.6 7.2 8.6 8.2	30.6 3.0 4.1 3.5 3.5 4.0 3.4 4.5 3.1 7.5 2.7 7.8 31.8 3.1 4.4 3.8 3.8 4.2 3.5 4.4 3.3 7.5 3.0 8.5							7.8 2.6 8.2 3.0 15.6 4.2 7.9 6.6 3.0 6.8 3.6 15.3 6.3 8.8				5:6 5:5
<i>C. truncatus</i> M, LT <i>C. a. rufescens</i> M, LT <i>C. anthracinus</i> F, LT	43.5 46 52	6.0 6.7 6.4 7.2 6.9 7.2	25.5 2.5 3.4 3.0 2.9 3.1 2.9 3.5 2.6 6.2 2.5 7.0 26 2.5 3.8 3.0 3.1 3.1 3.0 3.6 2.9 6.3 2.5 7.5 25.5 2.4 3.7 2.9 3.1 3.1 2.9 3.5 2.6 6.4 2.4 7.1							5.9 2.7 6.3 2.7 11.4 3.7 5.7 6.0 2.9 6.6 3.0 12.2 4.0 5.9 5.2 2.5 5.8 2.8 11.4 3.8 6.0				5:5 6:7 6:6
F, LT <i>C. granosus</i> F, PLT <i>C. anthracinus</i>	52.3 49.8	6.5 7.0 7.0 7.0	25.4 2.5 3.7 3.1 3.1 3.3 3.0 3.5 2.7 6.1 2.5 7.0 27.5 2.6 4.0 3.2 3.4 3.4 3.2 3.8 2.8 7.0 2.6 7.2							5.6 2.8 6.0 2.9 11.5 4.1 6.2 5.7 3.1 6.2 3.0 12.4 4.2 6.4				4:4 4:4
<i>C. tryznai</i> sp. n. M, HT F, AT	32.3 38.9	4.4 4.5 5.0 5.4	18.8 1.8 2.7 2.3 2.1 2.5 2.0 2.7 1.9 4.7 1.8 4.6 19.6 2.0 2.9 2.4 2.3 2.5 2.1 2.8 2.0 5.1 1.8 4.6							5.1 1.8 5.2 2.0 10.0 3.2 4.9 4.4 1.8 4.6 2.2 9.9 3.4 6.2				4:4 3:4
<i>C. variegatus</i> M, LT <i>C. v. nigricolor</i> F, PLT <i>C. v. nigricolor</i>	45.4 45.9	5.6 5.8 5.5 6.0	22.6 2.0 3.0 2.4 2.6 2.6 2.5 3.0 2.3 5.7 2.3 6.2 20.6 2.0 3.0 2.2 2.6 2.4 2.5 2.7 2.3 5.1 2.2 5.6							4.4 2.0 4.6 2.2 10.4 6.2 5.4 4.1 1.9 4.5 2.2 9.4 4.7 4.9				7:7 5:5

Table 1. Measurements (in millimeters) of chaerilid species. Line denoted "pectinal teeth" contains numbers of teeth on both sides separated by a colon.

Discussion

The monotypic family Chaerilidae includes 18 species whose differences may tempt the belief that more genera are needed, however I feel such splitting would be unnecessary and likely incorrect. A good example is *Chaerilus pictus* (Pocock, 1890), which was described as *Uromachus pictus* because the only available specimen, the holotype, was a male which has an unusually large telson (Fig. 42). In 1894, Pocock described *Chaerilus gemmifer* from females,

whose telson is of an ordinary size for the genus *Chaerilus* (Fig. 43). The two species are synonymized in this paper.

Some species of *Chaerilus* differ in shape of the manus of pedipalp (e.g. the male of *C. variegatus*-Fig. 30 versus the male of *C. agilis*-Fig. 10) or in total length (*C. sabinae* is only 8 mm long, whereas *C. tichyi* reaches 75.4 mm). It might seem justified to generically separate *C. sabinae*, a troglobite lacking both median and lateral eyes, from the cave-dwelling *C. chapmani* which has median eyes and the lateral eyes exhibit a varying degree of reduction within a single population.

The most obvious way of grouping species is by the number of cutting rows of granules on the movable fingers of pedipalps: 4 or 5 in *C. sabinae*; 7 or 8 in *C. agilis*, *C. assamensis*, *C. celebensis*, *C. chapmani*, *C. laevimanus*, *C. petrzekai* sp. n., *C. rectimanus*, and *C. tryznai* sp. n.; and 9 to 16 in *C. cavernicola*, *C. ceylonensis*, *C. insignis*, *C. pictus*, *C. robinsoni*, *C. tichyi* sp. n., *C. tricostatus*, *C. truncatus*, and *C. variegatus*. However, these groups definitely neither comprise more closely related species nor cluster species geographically.

The variability of most species is within limits encountered in many other scorpion genera, but it does exceed normalcy in *C. truncatus*, where it has led to the creation of a number of synonyms.

Chaerilus species belong to the most rarely collected scorpion species, and their low available number of specimens often make character assessment difficult.

	Bangladesh	China (Tibet)	India	Indonesia	Malaysia	Myanmar	Nepal	Philippines	Sri Lanka	Thailand	Vietnam
<i>Chaerilus agilis</i>	—	—	—	—	x	—	—	—	—	—	—
<i>Chaerilus assamensis</i>	—	—	x	—	—	—	—	—	—	—	—
<i>Chaerilus cavernicola</i>	—	—	—	x	x	—	—	—	—	x	—
<i>Chaerilus celebensis</i>	—	—	—	x	x	—	—	x	—	—	—
<i>Chaerilus ceylonensis</i>	—	—	—	—	—	—	—	—	x	—	—
<i>Chaerilus chapmani</i>	—	—	—	—	x	—	—	x	—	—	—
<i>Chaerilus insignis</i>	—	—	x	—	—	—	—	—	—	—	—
<i>Chaerilus laevimanus</i>	—	—	—	x	x	—	—	—	—	—	—
<i>Chaerilus petrzekai</i> sp. n.	—	—	—	—	—	—	—	—	—	—	x
<i>Chaerilus pictus</i>	x	x	x	—	—	—	—	—	—	—	—
<i>Chaerilus rectimanus</i>	—	—	—	—	x	—	—	—	—	—	—
<i>Chaerilus robinsoni</i>	—	—	—	—	x	—	—	—	—	—	—
<i>Chaerilus sabinae</i>	—	—	—	x	—	—	—	—	—	—	—
<i>Chaerilus tichyi</i> sp. n.	—	—	—	—	x	—	—	—	—	—	—
<i>Chaerilus tricostatus</i>	—	—	x	—	—	—	—	—	—	—	—
<i>Chaerilus truncatus</i>	—	—	x	—	—	—	x	—	—	—	—
<i>Chaerilus tryznai</i> sp. n.	—	x	—	—	—	—	—	—	—	—	—
<i>Chaerilus variegatus</i>	—	—	—	x	—	x	—	—	—	—	—

Table 2. Geographic distribution of chaerilid species.

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